

2.2.2 Soils

Table A2.2.2.1 The Major Characteristics of Catena/Series

Mapping Unit	Soil Type	Lithology	Thickness of Pedment (cm)	Color	Carbn (%)	pH	C.E.C. (me/100g)	B.S (%)
Buganda Catena	"Ferruginized" Sandy Loam	Iron Concretions	30-60	7.5YR 5/6	3.5-4.0	Slightly acid	20-25	50-60
	Clay Loam	Schists	180-300	2.5YR 4/8	2.5-3.0	Medium acid	20-25	50-75
	"Brown Ferruginized" Sandy Loam	Iron Concretions	30-60	5 YR 3/4	2.0-2.5	Strongly acid	10-15	30-40
Mirambi Catena	"Brown Deep" Sandy Loam	Gneisses Granites	120-180	7.5YR 5/6	1.5-2.5	Slightly acid	10-15	50-60
Mawogola Catena	"medium" Gravelly Loam	Gneisses Granites	120-180	7.5YR 5/6	1.0-1.5	Strongly acid	10-15	30-40
Mabira Catena	"Red" Clay	Phyllite	120-180	2.5YR 4/6	-	-	-	-
Nakabango Catena	"Red" Clay	Amphibolite	120-180	10R 3/6	4.0-7.0	Neutral	30-40	80-95
Lukaya Catena	Loam	Quartz-mica Schists	120-180	5YR 5/6	1.5-2.0	Medium acid	10-15	30-40
Buyaga Catena	"Red Deep" Clay Loam	Gneisses Granites	180-300	2.5YR 5/8	2.5-3.0	Slightly acid	15-20	50-75
Buruli Catena	"Red Deep" Sandy Loam	Gneisses Granites	120-180	2.5YR 4/8	0.5-1.0	Strongly acid	5-10	30-40
Kabira Catena	"Medium" Sandy Loam	Gneisses Granites	90-150	5YR 4/8	2.5-4.0	Very Strongly acid	20-25	20-30
Koki Catena	"Red" Clay	Phyllite	90-150	5 YR 5/8	2.5-3.0	Medium acid	10-15	40-50
	"Brown" Clay	Phyllite	90-150	10YR 6/4	2.0-2.5	Medium acid	10-15	50-60
	"Yellow" Clay	Phyllite Shale	60-120	5 YR 9/4	2.0-2.5	Strongly acid	10-15	30-40
Lwampanga Series	Loamy Sand	Gneisses Granites	120-180	7.5YR 6/8	0.5-1.0	Strongly acid	5-10	25-30
Mulembo Series	Sand	Alluvium	N. D.	5 y 7/3	1.5-2.0	Strongly acid	2-5	10-15
Kifu Series	Sand	Alluvium	N. D.	10YR 7/2	4.0-7.0	Extremely acid	15-20	2-5
Kaku Series	Clay	Alluvium	N. D.	5 Y 6/1	4.0-7.0	Strongly acid	30-40	40-60
Sango Series	"Deep" Sand	Lake Deposit	N. D.	5 Y 5/1	0.5-1.0	Strongly acid	2-5	5-10
Sesse Series	"Red" Loam	Quartzites Sandstones	120-180	2.5YR 5/8	1.5-4.0	Extremely acid	10-15	20-30
	"Brown Sandy Loam	Quartzites Sandstones	120-180	5 YR 4/6	1.5-2.0	Very Strongly acid	5-10	20-30
Makole Series	Gravelly Loam	Granites	60-120	10YR 5/3	1.0-1.5	Slightly acid	10-15	50-60
Bukora Series	Clay	Alluvium	N. D.	10YR 7/2	1.5-2.0	Strongly acid	10-15	40-50
Tolero Series	Brashy Rock	Phyllite	-	-	-	-	-	-

Source: The soils and land use of Buganda, S. A. Radwanski, 1960

Table A2.2.2.2 Analytical Data of Soils

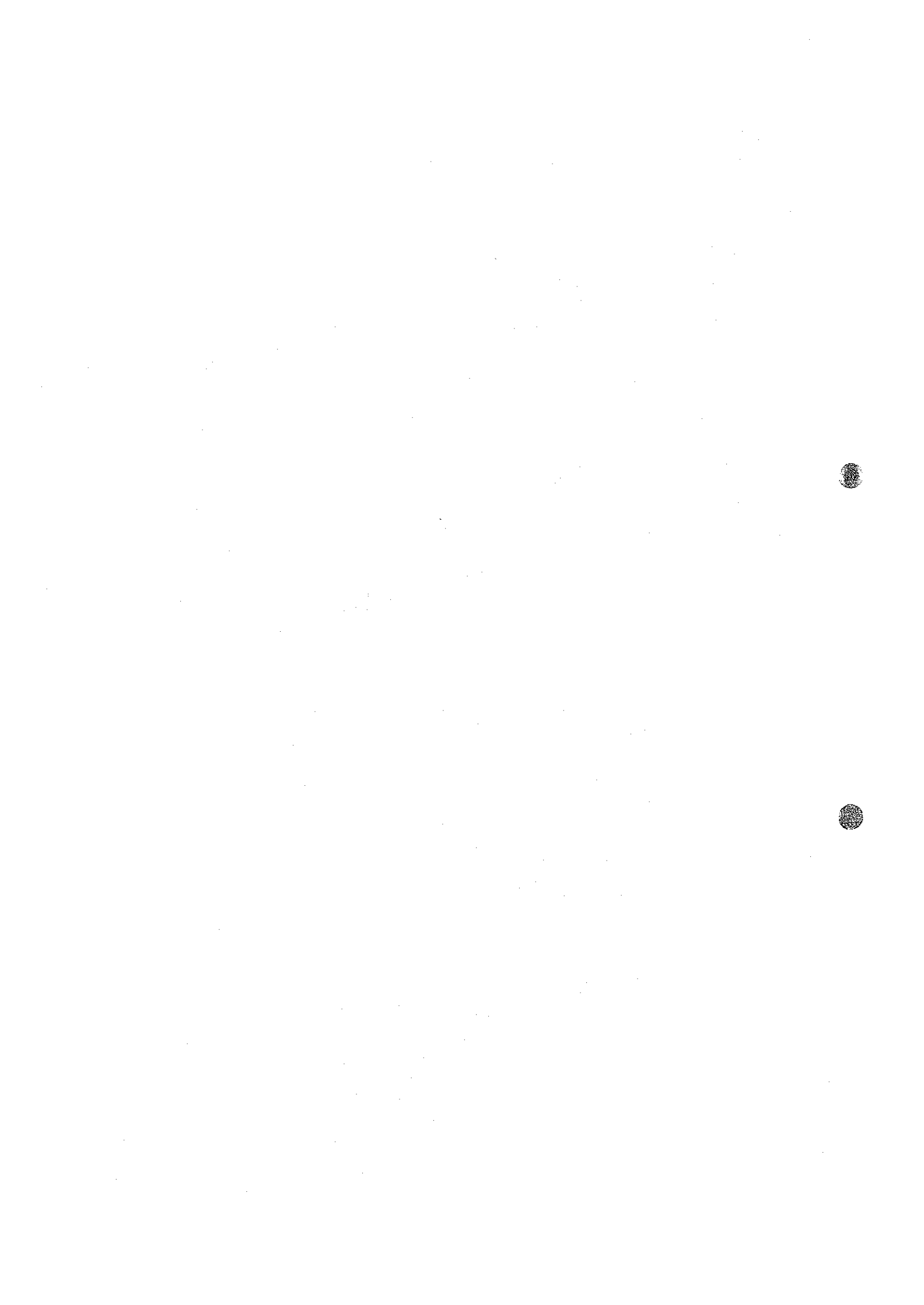
Soil	Depth (cm)	Clay (%)	Ex-Bases (me/100g)			CEC me /100g	pH	Carbon (%)	Truog P ₂ O ₅ p.p.m
			Ca	Mg	K				
Buganda "Ferruginized"	0-10	23	6.9	2.5	0.16	15.3	5.7	2.96	47
Buganda Clay Loam	0 - 8	32	7.5	3.6	0.14	23.9	6.0	2.47	15
Buganda "Brown Ferruginized"	0 - 8	40	3.1	1.7	0	13.2	5.5	2.55	25
Mirambi "Brown Deep"	0 - 8	15	4.1	2.3	1.00	13.5	6.3	1.68	72
Mawogola "Medium"	0 - 8	23	2.1	1.1	0.20	11.2	5.3	1.41	10
Mabira "Red"	0 - 8	46	30.2	3.4	0.56	40.0	6.1	4.67	43
Nakabango "Red"	0 - 8	46	20.8	3.4	1.34	28.0	7.2	7.28	190
Lukaya	0 - 8	27	2.1	1.8	0.39	10.8	5.8	1.71	11
Buyaga "Red Deep"	0 - 8	32	6.1	3.4	1.37	15.2	6.2	2.70	28
Buruli "Red Deep"	0 - 8	12	0.7	0.6	<0.08	4.7	4.7	0.96	10
Kabira "Medium"	0 - 8	48	3.7	1.2	0.17	26.1	5.0	2.01	43
Koki "Red"	0 - 8	48	2.4	1.9	0.38	11.4	5.7	3.02	43
Koki "Brown"	0 - 8	37	4.8	1.5	0.39	11.2	5.8	2.29	26
Koki "Yellow"	0-10	N. D.	2.8	1.5	0.28	12.9	5.1	2.52	15
Lwampanga Series	0 - 8	15	0.7	<0.3	0.14	3.5	5.5	0.44	12
Mulembo Series	0 - 5	5	<0.4	<0.3	0.18	1.5	5.3	1.68	55
Kifu Series	0 - 8	22	<0.4	<0.3	0.69	18.8	4.4	4.70	9
Kafu Series	0-13	29	38.8	9.4	2.00	59.4	5.3	5.61	167
Sango Series	0-13	0	<0.4	<0.3	0.13	5.3	5.2	1.08	121
Sesse "Red"	0 - 8	42	3.0	0	<0.16	14.4	4.0	4.28	290
Sesse "Brown"	0 - 8	18	1.2	0	0	7.2	4.9	2.20	104
Makole Series	0 - 8	20	2.8	2.8	0.81	11.5	6.1	1.49	23
Bukora Series	0 - 8	24	3.5	4.0	0.63	13.7	5.5	2.07	103

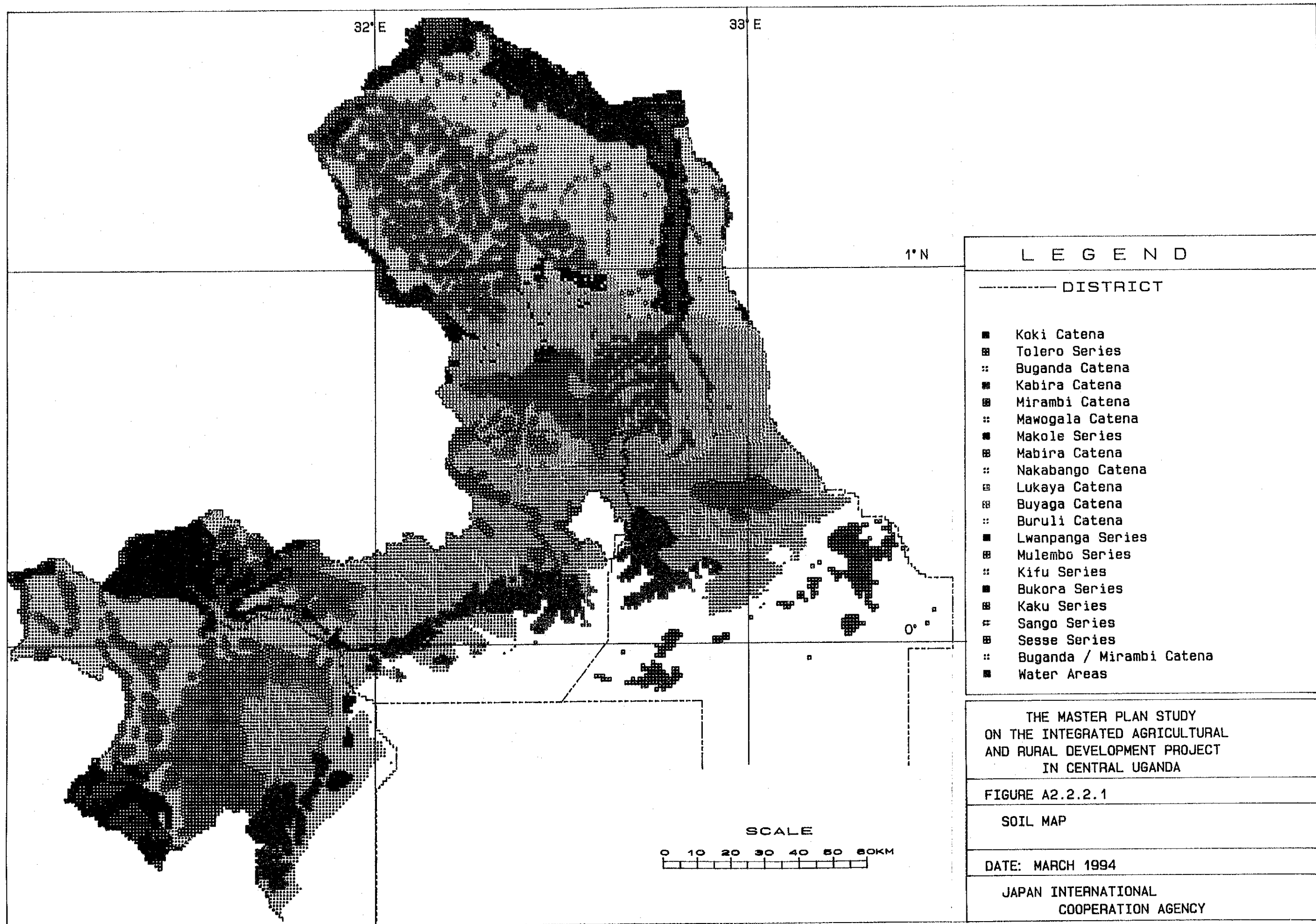
Source : The soils and land use of Buganda, S. A. Radwanski, 1960

Table A2.2.2.3 Distribution of Soil Catena / Series in Study Area

(sq. km)

Soil Catena/Series	Luwero		Masaka		Mpigi		Mukono		Total	
	Area	%	Area	%	Area	%	Area	%	Area	%
Koki Catena	0	0.0	183	3.1	0	0.0	0	0.0	183	0.7
Tolero Series	0	0.0	192	3.3	0	0.0	0	0.0	192	0.8
Buganda Catena	43	0.5	391	6.7	1,693	32.8	888	17.6	3,015	12.0
Kabira Catena	0	0.0	395	6.7	549	10.7	364	7.2	1,308	5.2
Mirambi Catena	577	6.4	752	12.8	261	5.0	0	0.0	1,590	6.3
Mawogola Catena	0	0.0	1,715	29.3	232	4.5	0	0.0	1,947	7.8
Makole Series	0	0.0	207	3.5	464	9.0	0	0.0	671	2.7
Mabira Catena	0	0.0	0	0.0	0	0.0	211	4.2	211	0.8
Nakabango Catena	0	0.0	0	0.0	0	0.0	155	3.1	155	0.6
Lukaya Catena	25	0.3	0	0.0	110	2.1	0	0.0	135	0.5
Buyaga Catena	1,305	14.5	0	0.0	1	0.0	987	19.6	2,293	9.1
Buruli Catena	3,381	37.4	0	0.0	0	0.0	563	11.2	3,944	15.7
Lwampanga Series	944	10.5	18	0.3	213	4.1	170	3.3	1,345	5.4
Mulembo Series	2,178	24.1	968	16.5	410	7.9	37	0.7	3,593	14.3
Kifu Series	99	1.1	375	6.4	460	8.9	233	4.6	1,167	4.7
Bukora Series	142	1.6	157	2.7	0	0.0	2	0.1	301	1.2
Kaku Series	318	3.5	0	0.0	207	4.0	446	8.9	971	3.9
Sango Series	0	0.0	512	8.7	428	8.3	5	0.1	945	3.8
Sesse Series	0	0.0	0	0.0	0	0.0	385	7.6	385	1.5
Buganda.Mirambi Catena	5	0.1	0	0.0	140	2.7	592	11.8	737	2.9
TOTAL	9,017	100.0	5,865	100.0	5,168	100.0	5,038	100.0	25,088	100.0





LEGEND

----- DISTRICT

- Koki Catena
- ▣ Tolero Series
- :: Buganda Catena
- Kabira Catena
- ▣ Mirambi Catena
- :: Mawogala Catena
- Makole Series
- ▣ Mabira Catena
- :: Nakabango Catena
- ▣ Lukaya Catena
- ▣ Buyaga Catena
- :: Buruli Catena
- Lwanpanga Series
- ▣ Mulembo Series
- :: Kifu Series
- Bukora Series
- ▣ Kaku Series
- # Sango Series
- ▣ Sesse Series
- :: Buganda / Mirambi Catena
- Water Areas

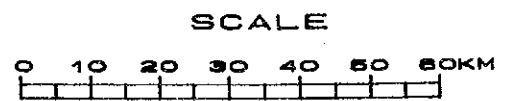
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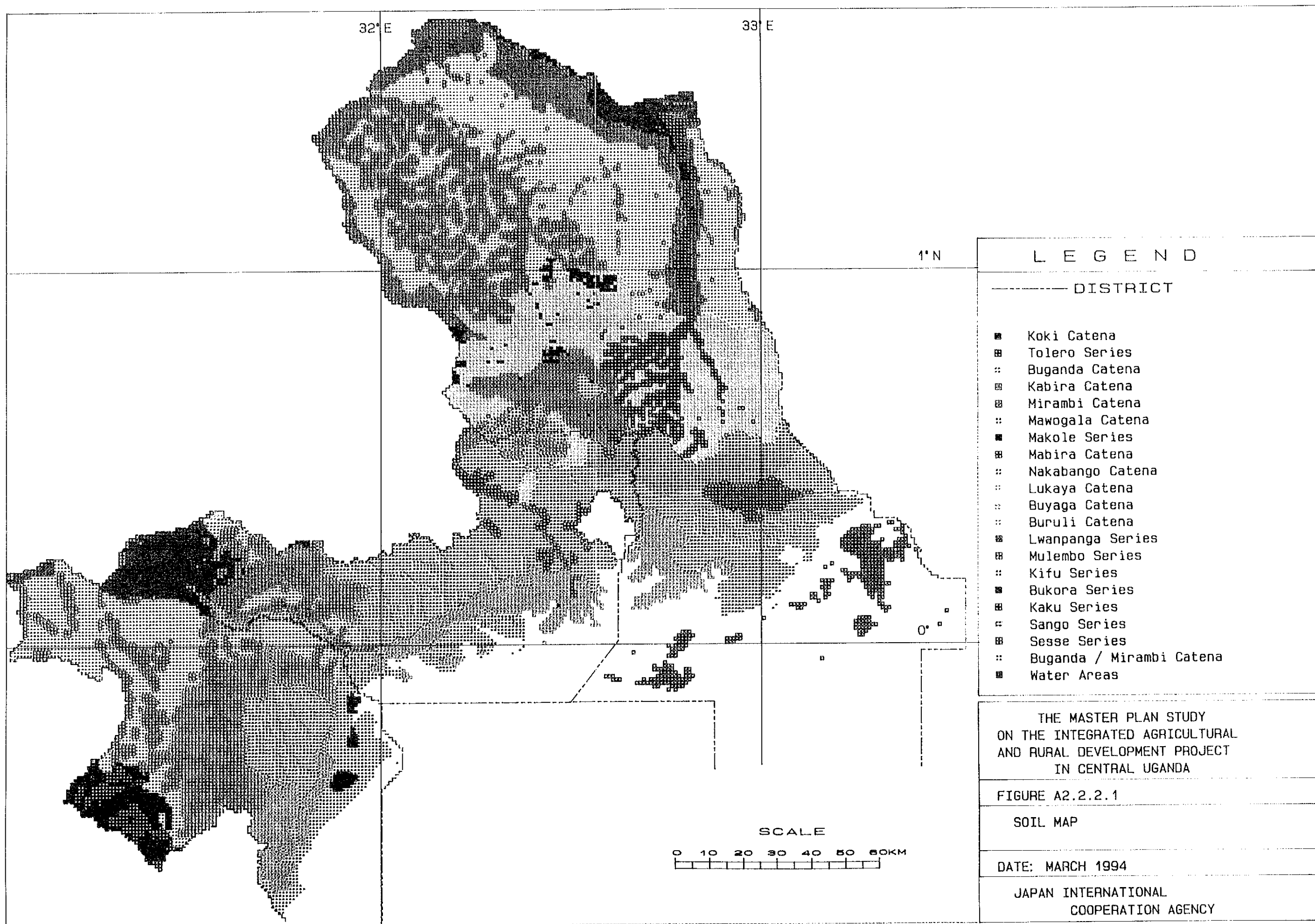
FIGURE A2.2.2.1

SOIL MAP

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Appendix 2.2.3 Land Use

1) Slope gradients according to land use classification

At present some 71% of forests (including forest reserves) are on land sloping at under 6%. Luwero has the highest proportion of forests in this category at 99%, followed by Masaka with 75% (although the total area is only small).

On the other hand, nearly 40% of forests in Mpigi and Mukono are found on slopes of 6% or more, in the hilly region around Lake Victoria.

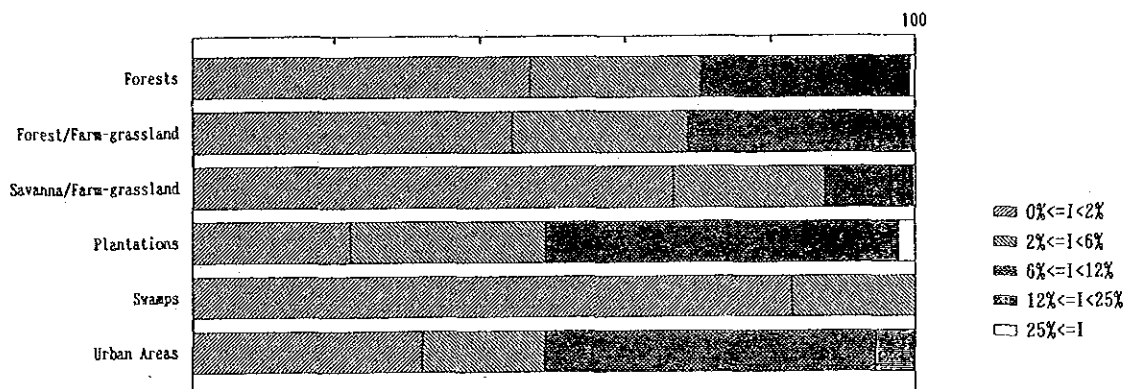
Nearly 70% of forest/farm-grassland mosaics (FFGM), like forests, are on slopes under 6%. The figure rises to 79% in Mukono and 90% in Luwero. Mosaics are concentrated in the 30-50 north longitude belt.

Sixty-seven percent of savanna/farm-grassland mosaics (SFGM) are on land sloping at less than 2%. Some 78% of SFGM are located in northern Luwero. Mukono has similar land in the north but the actual area involved is only small.

Many plantations are found on comparatively steep (>6%) ground. Some 84% of plantations are on slopes under 12%, chiefly because tea, a perennial crop, provides resistance to soil erosion and can therefore be cultivated on steep ground.

Within the Study area the erosion of arable ground by rain is posing a serious problem, particularly in the hilly region of Masaka. The Master Plan will need to give due consideration to this. Similarly, agricultural development on slopes will need to consider rainfall and soil conditions.

Figure A2.2.3.1 Slope Classification by Present Land Use

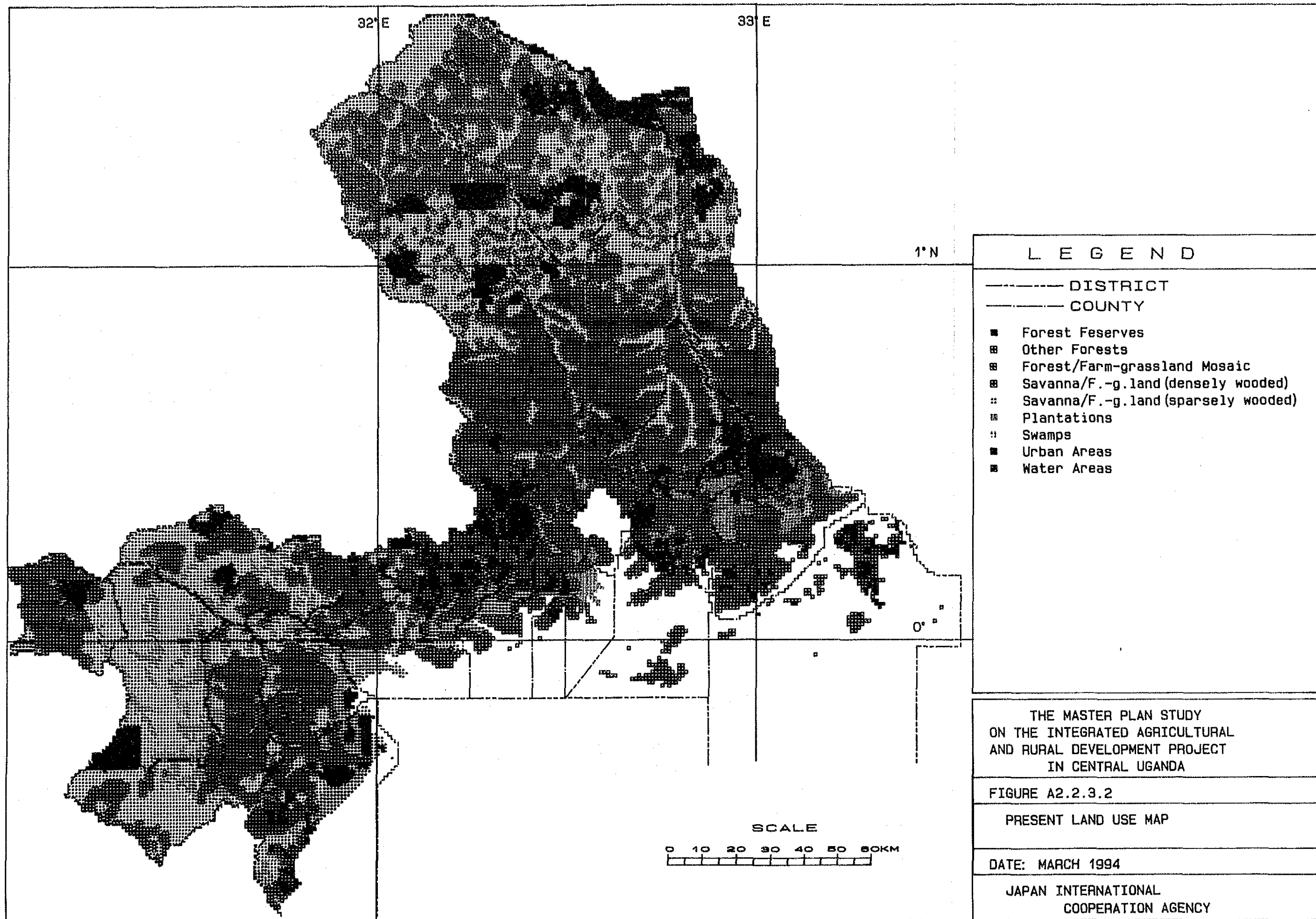


Source : Mesh Database in Study Area

Table A2.2.3.1 Slope Classification by Present Land Use

	(sq.Km)					Total
	1 < 2%	2% <= 1 < 6%	6% <= 1 < 12%	12% <= 1 < 25%	25% <= 1	
Forests (all)						
Luwero	722.5	130.0	5.9	2.0	0.0	860.4
Masaka	176.3	93.8	71.5	20.1	0.0	361.7
Mpigi	491.6	377.3	336.8	214.0	11.0	1,430.7
Mukono	505.5	352.7	400.2	106.7	21.5	1,386.6
Total	1,895.9	953.8	814.4	342.8	32.5	4,039.4
Forest/Farm- grassland						
Luwero	748.7	294.8	105.1	16.9	0.0	1,165.5
Masaka	573.2	498.1	554.7	272.6	4.1	1,902.7
Mpigi	587.4	422.7	487.3	199.7	10.2	1,707.3
Mukono	869.5	318.2	237.5	67.0	7.0	1,499.2
Total	2,778.8	1,533.8	1,384.6	556.2	21.3	6,274.7
Savanna/Farm- grassland						
Luwero	4,941.6	1,129.9	204.2	23.8	13.2	6,312.7
Masaka	860.8	745.3	422.0	166.2	12.2	2,206.5
Mpigi	317.3	212.1	230.2	95.8	8.9	864.3
Mukono	1,003.9	142.6	103.7	56.0	7.2	1,313.4
Total	7,123.6	2,229.9	960.1	341.8	41.5	10,696.9
Plantations						
Luwero	11.9	9.8	2.0	0.0	0.0	23.7
Masaka	0.0	0.0	0.0	0.0	0.0	0.0
Mpigi	61.8	57.0	61.8	23.6	1.1	205.3
Mukono	74.5	112.4	174.1	65.2	14.3	440.5
Total	148.2	179.2	237.9	88.8	15.4	669.5
Swamps						
Luwero	571.3	74.5	0.0	0.0	0.0	645.8
Masaka	1,132.7	258.6	0.0	0.0	0.0	1,391.3
Mpigi	745.7	201.8	0.0	0.0	0.0	947.5
Mukono	347.4	44.3	0.0	0.0	0.0	391.7
Total	2,797.1	579.2	0.0	0.0	0.0	3,376.3
Urban Areas						
Luwero	8.2	1.0	0.0	0.0	0.0	9.2
Masaka	0.0	0.0	3.0	0.0	0.0	3.0
Mpigi	2.9	2.8	5.8	0.9	0.0	12.4
Mukono	0.0	2.0	6.8	1.0	0.0	9.8
Total	11.1	5.8	15.6	1.9	0.0	34.4
Total						
Luwero	7,004.2	1,640.0	317.2	42.7	13.2	9,017.3
Masaka	2,743.0	1,595.8	1,051.2	458.9	16.3	5,865.2
Mpigi	2,206.7	1,273.7	1,121.9	534.0	31.2	5,167.5
Mukono	2,800.8	972.2	922.3	295.9	50.0	5,041.2
Total	14,754.7	5,481.7	3,412.6	1,331.5	110.7	25,091.2

Source: Mesh Database of This Study



L E G E N D

- DISTRICT
- COUNTY
- Forest Reserves
- ▣ Other Forests
- ▤ Forest/Farm-grassland Mosaic
- ▥ Savanna/F.-g.land (densely wooded)
- ▦ Savanna/F.-g.land (sparsely wooded)
- ▧ Plantations
- ▨ Swamps
- Urban Areas
- Water Areas

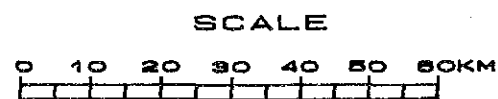
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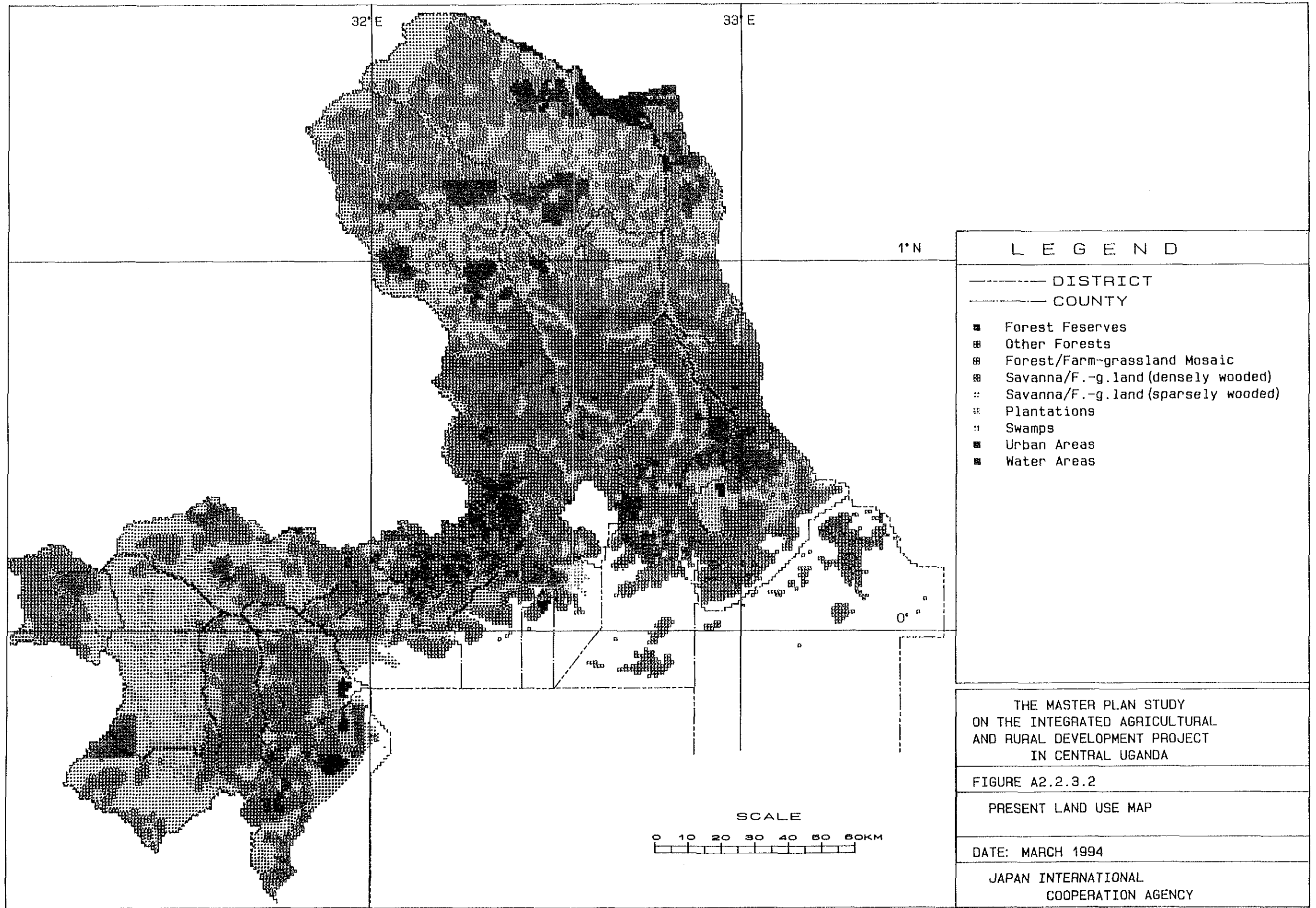
FIGURE A2.2.3.2

PRESENT LAND USE MAP

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L E G E N D

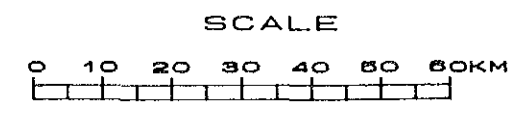
- DISTRICT
- COUNTY
- Forest Reserves
- ▣ Other Forests
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- Water Areas

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FIGURE A2.2.3.2
PRESENT LAND USE MAP

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Appendix 2.3 Cultivation, Farm Management and Agroecology

2.3.1 Cultivation

1) Current problems with principal crops and cultivation techniques.

Due to favorable agro-climatic conditions for the production of tropical, subtropical and to a limited extent temperature crops, the Study area has a wide range of crop species. Using existing materials, interviews with researchers and farmers, and FIS and field observations, the present situation relating to cultivation and technological problems being involved in the main crops have been assessed. Area, production and yield are from the Uganda National Census of Agriculture and Livestock in 1990/91 (Table A2.3.1.1), unless otherwise being stated. Table A2.3.1.1 also shows crop statistics of the study area in 1986 through 1989 compiled by Statistical Development, MPED.

(1) Food Crops

Banana

Banana is the major food crop in Uganda. It occupies the largest cultivation area of all food crops in the Study area. Yet, cultivation is notably low in northern Luwero District, where dry seasons last a long time. Most banana is inter cropped or mixed cropped with coffee, fruit trees and other food crops. The yields are only 6t/ha in the Study area. Major causes for low yields are soil degradation, hazards of disease and insect damage (parasitic nematodes, fusarium wilt, banana weevil etc).

Cassava and Sweet Potatoes

Cassava and sweet potatoes rank second and third in terms of area and production after banana in Uganda. Both are grown throughout the Study area, although cultivation of cassava in northern Luwero District and of sweet potatoes are 20-30t/ha and 6.5t/ha, respectively. The figures of sweet potatoes are low as compared to those of other countries. The major technological problems of cassava and sweet potatoes are associated with non-availability of high-yielding and disease resistant varieties. Cassava mosaic virus can be very serious in cassava and sweet potatoes are also attacked by virus disease. As for sweet potatoes, low plant density combined with poor post harvest techniques and storage facilities are also referred to as big constraints.

Irish Potatoes

Cultivation of Irish potatoes has been increasing in compliance with the upward trend of domestic demand. It is extensively cultivated in western and central Uganda. In the Study area, Major cultivation areas are Mpigi District, Masaka District, and southern Luwero District.

Present yields fall in a low level of 8t/ha. The low yields are attributed to poor varieties, and insufficient provision of seed potatoes from the high altitude areas.

Maize

The cultivation areas of maize has been increasing as an important cash and food crop. It is grown on an area of 267,000 ha in Uganda and 22,300 ha in the Study area alone. Maize is grown all over in the Study area except for western Luwero District. Despite of the expansion in planting area the yields remain low in the Study area (1.2t/ha). Two maize varieties, Kawanda Composite A and Longe-1, are grown at present. The former is susceptible to maize streak, but resistant to northern leaf blight. The later is torrent to maize streak. Major production constraints are low planting density and poor post harvest management.

Finger Millet and Sorghum

Finger millet and sorghum are important cereals in drier areas such as eastern and northern Uganda. They are also grown in the Study area not only as food crops but also for locally brewed beer. Their yields remain at low level, being 0.7t/ha in millet and 1.8t/ha in sorghum. They are attributed to low-yielding varieties. Finger millet varieties Serer I, Engenyi and Gulu E have been grown. Variety of sorghum are Seredo and Serena. Blast, smut, powdery mildew and striga are major problems causing reduction in yield of finger millet, while grain mold, elgot, anthracnose and striga are constraints of sorghum. In addition, low fertility of soil, water stress and bird damage lead to their low product.

Rice

Rice is grown over 20,000 ha (1989) with a total production of 26,500 tons. Most is cultivated in swamp areas reclaimed by small holders in Iganda and Tororo districts. The production is below domestic demand. Present yield estimated to be 1.3t/ha is far from agreeable level (1989, MAAIF). Small areas in some swamps are put under rice cultivation in Mukono district. Major production constraints are flood control, water management and poor leveling, coupled with bird and rodent damage and weed control. High-yield and disease resistant varieties are needed.

Besides small holders farms some national rice schemes have been established out of the Study area, for instance the Mubuku Irrigation Scheme, Kibimba Rice Company, Doho and Olweny Rice Scheme.

Beans

In terms of production and source of vegetable protein, beans are regarded as the most important pulses. Consequently, beans are grown throughout the Study area, and cultivation is increasing. In the Study area 63,440 ha in areas are shared with beans, with yields reported to

be only 1.5t/ha. Production constraints are associated with diseases (bean anthracnose, bean rust, bacterial blight, bean mosaic virus), pest (bean fly, bean aphid) and storage pests.

Other Food crops

The following crops such as cowpeas, pigeon peas, field peas are grown in small area in the study area.

(2) Oil Crops

Groundnuts

Groundnuts, a major source of protein and vegetable oil, are grown all over the Study area except for western Luwero District. Current cultivation area is estimated to be approximately 27,000 hectares. But the yields are low (1.3t/ha). Production constraints are lack of high-yield varieties (Red beauty, Roxo), disease (rosette, leaf-spot, bacterial wilt) and pests (thrips, aphids).

Soyabean

Although soya beans are as important as groundnuts for the same reason, there is only a small area at present. But the production area has been gradually increasing in the Study area.

Simsim

This crop will grow in many areas, but is recommended for the drier areas. In the Study area, Mukono is the major producing district putting an area of 1,299 ha to simsim. The seeds are valued for their high oil and protein content, and important as cash crop.

Sunflower

Sunflower is also recommended for the drier areas. Luwero is the main sunflower district in the Study area. Major production constraints are related to the lack of the (Sunfol) variety and considerable bird damage.

(3) Cash Crops

a) Export oriented Crops

Cotton

Cotton ranks second in importance to coffee in export earnings. In 1990 56,000 ha was planted, with production of 43,853 tones, which has been declining in recent years. In the Study area, the production is 121 tone of cotton in 1990 in the western part of Luwero district. Cotton is also cultivated in northern Mukono District, but in small areas.

Average yield is 600 kg/ha in seed cotton. Cotton can be grown in the Study area from June to August following the harvest of the first rain crop. Crop yield increases the earlier it is sown.

Within the Study area cotton farming is a small-scale concern carried out at the farm household level. Farms of less than about 1 ha use hand tools for plowing; larger farms hire tractors. Although there is little evidence of fertilizer use or disease or pest control, some farms apply pesticides such as Salute of Ambush. Sowing, thinning, weeding, harvesting and sorting are all performed manually.

In north and east Uganda millet is grown after cotton. In highly populated regions within the Study area priority is given to food crops such as beans, maize and sweet potatoes, and cotton is sown after the food crops have been harvested. Cotton yield in these regions is lower than the average due to the delayed sowing season. Crops grown after cotton have high yield, since cotton plants do not create many weeds and the long roots draw out nutrients from deep in the soil.

During the 1980s the cotton varieties BPA and Satu began to be mixed together, as a result of which there are now no pure varieties. This has reduced yield potential and lint quality.

Propagation of cotton seeds is inadequate at present, nor are there enough pure varieties. High-yield varieties should be developed, and farmers themselves must start using improved cultivation practices.

Mulberry Planting and Sericulture

Uganda has good temperature, humidity, rainfall and sunshine for both mulberry trees and silkworm rearing. Although sericulture is only a new industry, it has been carried out in many districts by some pioneering farmers on a small scale. Table A2.3.1.2 shows the cultivation area of mulberry trees in districts where sericulture is comparatively popular.

Mulberry planting material is distributed to farmers by KARI as well as private sector corporations USIL and ISEL. Most farmers grow K₂ varieties, although smaller quantities of S41, S54 and local varieties can also be found. S54 yield is particularly good in areas with high rainfall. According to KARI, K₂ crops produce 30t/ha of leaves per year and S41 crops 34t/ha. It is estimated that these yields would double if fertilizer were used. Also, planting materials are in short supply at present.

Mulberry is most commonly affected by pests such as scale insects and mealy bugs, and foliar diseases such as leaf spot and powdery mildew which attack the leaves, which silkworm suffers principally from bacterial diseases, viral diseases and mascalpine.

Since July 1992 USIL and ISEL have brought some 1258 boxes of silkworm eggs from Japan. Young silkworms are produced by ISEL, USIL and KARI for distribution to farmers.

Cocoons produced by farmers are dried at a crying station in Bushenyi. At present cocoons are inspected visually, but more detailed tests for reliability and raw silk content will be required for future export purposes. Some 1.7 tons of cocoons was exported to Japan for the first time in 1993.

Research is presently underway at KARI into mulberry farming and sericulture.

Coffee

Out of 240,000 ha under coffee in Uganda, 210,000 ha is robusta and 30,000 ha arabica (1989/90, MAAIF). In the Study area only robusta (ERECT and NGANDA strains) is seen. The planted area in Luwero, Masaka, Mpigi and Mukono districts in 1990 amounted to 18,091, 26,802, 17,828 and 55,577 ha respectively, representing 51% of the total planted area. Lake Victoria Crescent Zone, especially, possesses a large area. Coffee is grown by small holders. Coffee trees are generally shaded by bananas, Albizzia spp., Ficus spp. and other scattered trees.

The average yields of robusta coffee are low (600 kg/ha). This is attributed to old trees of traditional varieties, varietal degradation, a short supply of high yielding clones and low soil fertility. At the moment, the EEC assisted Farming Systems Support Programme is under way to improve quality and raise production.

Tea

Tea is the third largest foreign exchange earner. Its production ranged from 3,500 to 4,700 tones of mad tea between 1987 and 1989, with gradual upward trend, reaching about 8,900 tones in 1991 *Uganda Tea Authority and B.A.T. (Uganda) Ltd.).

Tea is mainly grown outside the Study area except in the south of Mukono district. Present yields are reported to be 1.4-1.6t/ha in processed tea (Agricultural Committee, 1991). The figures are low. The technological constraints are the lack of improved clones and crop management practices. At present the Smallholder Tea Growers Project is under way to raise yield and improve the quality of leaf.

Cacao

Cacao plants need to be sheltered from wind, and grow best together with other trees. Leaf fall and husks from the cacao, and tree leaves form a mulch. In 1991/1992 the high-rainfall Mukono District had 5571 ha of cacao plantations, the east of Mpigi District 566 ha and southern Luwero District 92 ha.

Current crop yields are 300-500 kg/ha. According the Agricultural policy Committee (1991), proper farming techniques and disease control could increase the yield of current varieties-amelondos, upper amazon and trinitarios-to 700-1,000 kg/ha. Red criole is also

grown. The principal pests are capsid bugs and mealy bugs, and the main disease verticillium wilt.

Further research is required on improved cacao varieties and clones as well as the use of fertilizers, disease and pest control and other types of technology.

Vanilla

Vanilla has been introduced recently as an export crop chiefly for America and Canada. Over the last two or three years export volume has been in the range of 3-5 tons annually.

Within the Study area vanilla is grown in the Buikwe, Mukono District. In 1990/1991 a total of 22 ha was devoted to vanilla crops in the District. Vanilla is also grown on a smaller scale in Mpigi District. Mukono District has the most suitable conditions in Uganda, bordering on a lake, it has high humidity and high rainfall.

Vanilla is grown together with banana and coffee. This mixed cropping provides shade for the vanilla plants to protect against sunburn, lessens the effect of wind and keeps the humidity high.

Organic manure such as poultry and cow dung are used instead of chemical fertilizers. Mulch containing coffee husks and dried grasses works well since the roots are located just under the ground surface. Leaf fall from banana and coffee plants also forms part of the mulch.

Varieties include vanilla pompona and vanilla tahitensis. Annual crop yield is 500-800 kg/ha. At present there are no techniques to protect against root rot, shoot rot and viral diseases. Research into vanilla cultivation however is just getting underway.

Tobacco

Tobacco ranks fourth among the export crops of Uganda. The production of tobacco has increased in the last decade, with production of 5,140 tones in 1991 (Uganda Tea Authority and B.A.T. (Uganda) Ltd.). The main planted areas in Uganda include the north western parts and Kisoro district grown by small holders. Tobacco is seldom grown in the Study area.

b) Horticultural Crops

Horticultural crops are of importance as cash crops for small scale farmers. Table A2.3.1.3 shows garden stuff cultivated in the Study area. Most fruits and vegetables are produced around the homesteads. Vegetables are also grown on the fringes of valleys where the water table is relatively low. Some horticultural crops such as chilies, ginger, pineapples, passion fruit, mango, avocado and citrus are exported abroad on a small scale. Major production constraints are post-harvest handling and the lack of high yield varieties. The project of Horticulture Industry Development (the first phase) is underway with the support of UNDP/FAO.

c) Other Cash Crops

Sugar cane

In 1988, the production of sugar was 7,260 tones (Agricultural Policy Committee, National Agricultural Research Strategy and plan, 1991) which could not meet domestic demand. The harvested area and yield of sugarcane were 80,000 ha and 11.0t/ha, respectively (FAO Production Year Book, 1991). The yield is very low as compared to other sugarcane-growing countries. In the Study area, production constraints are unsuccessful rehabilitation of sugarcane factories, crop selection, crop management practice and soil fertility management. Sugarcane for chewing is grown on a much smaller scale: amounting to 77 ha in Luwero, 313 ha in Masaka, and 5,073 ha in Mpigi district.

Table A2.3.1.1 Area and Production of Crops

Crop	District	Unit : area (ha), production (ton)									
		1986		1987		1988		1989		1990	
		AREA	PRODUCTION	AREA	PRODUCTION	AREA	PRODUCTION	AREA	PRODUCTION	AREA	PRODUCTION
Bananas	Luwero	69,294	381,375	90,948	503,852	93,222	522,042	94,620	534,603	10,995	51,677
	Masaka	110,907	610,401	116,452	645,146	119,364	668,436	121,154	684,521	70,669	473,482
	Mpigi	59,146	325,523	62,103	344,052	63,656	356,473	64,611	365,051	22,719	115,867
	Mukono	125,608	691,311	131,888	730,662	135,186	757,039	137,213	775,256	24,427	168,546
	Sub Total	364,955	2,008,610	401,391	2,223,712	411,428	2,303,990	417,598	2,359,431	128,810	809,572
Total	1,192,768	6,564,659	1,270,596	7,039,100	1,032,361	7,293,219	1,321,896	7,168,712	612,166	1,717,186	
Cassava	Luwero	2,798	22,433	2,819	25,362	2,812	25,489	3,164	28,790	3,201	63,060
	Masaka	9,293	74,508	9,363	84,237	10,210	92,545	11,486	104,534	937	31,483
	Mpigi	7,492	60,069	7,548	67,908	8,231	74,607	9,260	81,272	3,875	97,650
	Mukono	14,905	119,504	15,016	135,096	15,375	139,362	17,297	157,415	18,137	495,140
	Sub Total	34,488	276,514	34,746	312,603	36,628	332,003	41,207	372,011	26,150	687,333
Total	361,724	2,000,191	344,659	3,100,828	360,893	3,271,206	392,095	3,568,379	183,920	5,007,201	
Irish Potatoes	Luwero									382	2,903
	Masaka	465	2,367	631	4,461	666	4,589	892	6,179	117	1,240
	Mpigi	429	2,185	582	4,125	615	4,242	825	5,715	136	1,006
	Mukono										
	Sub Total	894	4,552	1,213	8,586	1,281	8,831	1,717	11,894	635	5,149
Total	19,163	97,517	25,993	183,906	27,429	189,042	35,799	248,001	20,019	174,418	
Onions	Luwero	126	551	140	612	148	629				
	Masaka		6,019		6,687		6,877				
	Mpigi	353	1,584	393	1,760	415	1,810				
	Mukono	52	234	58	260	61	267				
	Sub Total	531	8,388	591	9,319	624	9,583				
Total	7,998	35,105	9,085	39,951	9,722	41,167					
Sweet Potatoes	Luwero	2,153	9,428	2,216	8,916	2,340	9,196	2,270	9,297	6,593	56,041
	Masaka	13,474	60,579	13,870	57,285	14,648	58,912	14,209	58,197	4,484	44,840
	Mpigi	6,658	29,933	6,854	28,306	7,239	29,110	7,022	28,761	22,907	125,989
	Mukono	13,683	61,519	14,085	58,175	14,875	59,827	14,429	59,099	15,341	95,114
	Sub Total	35,968	161,459	37,025	152,682	39,102	157,045	37,930	155,354	49,325	321,984
Total	407,327	1,864,595	397,663	1,673,922	417,257	1,715,760	404,739	1,657,792	169,522	1,371,054	
Maize	Luwero	2,489	2,489	2,486	2,850	2,797	3,569	3,636	5,272	4,056	8,518
	Masaka	3,855	3,855	3,850	4,543	4,331	5,527	5,631	8,164	4,513	4,964
	Mpigi	1,646	1,646	1,643	1,936	1,848	2,359	2,403	3,484	1,861	1,861
	Mukono	2,214	2,214	2,211	2,605	2,487	3,174	3,234	4,689	11,887	11,887
	Sub Total	10,204	10,204	10,190	11,934	11,463	14,629	14,904	21,609	22,317	27,230
Total	321,953	321,953	306,832	356,592	345,186	440,457	430,060	623,587	267,484	433,235	
Pigeon Peas	Luwero										
	Masaka										
	Mpigi									12	7
	Mukono							17	12	14	8
	Sub Total	0	0	0	0	0	0	17	12	26	15
Total	63,610	28,760	59,985	26,968	64,147	42,121	64,472	45,509	10,919	12,481	
Rice	Luwero										
	Masaka										
	Mpigi										
	Mukono										
	Sub Total	0	0	0	0	0	0	0	0	0	0
Total	16,956	20,573	15,986	21,231	17,496	22,967	20,077	26,502	-	-	
Simsim	Luwero	77	33	80	36	89	53	96	48	47	33
	Masaka										
	Mpigi	13	8	13	9	14	8	14	7		
	Mukono	98	43	101	46	113	68	143	72	1,817	1,272
	Sub Total	188	84	194	91	216	129	253	127	1,864	1,305
Total	80,441	34,610	73,996	32,965	80,816	35,837	91,591	45,796	63,988	46,585	

Crop	District	1986		1987		1988		1989		1990	
		AREA	PRODUCTION	AREA	PRODUCTION	AREA	PRODUCTION	AREA	PRODUCTION	AREA	PRODUCTION
Sorghum	Luwero	230	311	245	379	282	416	300	451	864	1,555
	Masaka	3,865	5,218	4,113	6,545	4,730	6,983	5,086	7,639	1,954	3,908
	Mpigi	887	1,197	944	1,503	1,086	1,603	1,255	1,885	1,524	2,591
	Mukono	1,367	1,845	1,455	2,315	1,673	2,470	1,701	2,555	1,524	2,743
	Sub Total	6,349	8,571	6,757	10,742	7,771	11,472	8,342	12,530	5,866	10,797
Total	207,610	280,274	202,840	314,929	233,266	344,364	230,888	346,803	133,608	259,274	
Soyabean	Luwero	25	21	21	17	23	25	22	20	71	50
	Masaka	277	261	234	215	367	371	484	436	10	11
	Mpigi	85	70	72	57	464	367	510	459	274	493
	Mukono	109	91	92	75	145	130	172	155	824	1,483
	Sub Total	496	443	419	364	999	893	1,188	1,070	1,179	2,037
Total	11,820	9,731	9,989	7,999	16,704	14,664	17,513	15,762	17,931	25,246	
Wheat	Luwero										
	Masaka										
	Mpigi										
	Mukono										
	Sub Total	0	0	0	0	0	0	0	0	0	0
Total	5,394	8,381	4,994	9,991	6,361	13,362	4,891	10,760	-	-	
Groundnuts	Luwero	1,921	1,283	2,159	1,579	2,645	1,984	3,345	2,576	5,509	6,060
	Masaka	3,254	2,172	3,658	2,675	3,672	2,754	3,702	2,851	7,376	10,326
	Mpigi	751	501	844	617	1,033	775	1,099	846	4,365	5,675
	Mukono	1,472	983	1,655	1,210	1,778	1,334	1,957	1,507	9,322	11,186
	Sub Total	7,398	4,939	8,316	6,081	9,128	6,847	10,103	7,780	26,572	33,247
Total	176,730	117,990	167,313	122,362	179,009	134,257	189,377	145,820	142,481	162,071	
Beans	Luwero	5,126	3,077	5,229	3,921	5,751	4,371	6,327	5,124	9,428	15,085
	Masaka	10,130	8,013	10,333	7,749	11,366	8,638	12,502	10,127	11,394	13,673
	Mpigi	6,429	3,859	6,558	4,918	7,213	5,482	7,935	6,427	9,539	10,493
	Mukono	10,032	6,822	10,233	7,674	11,256	8,554	12,381	10,029	33,079	49,619
	Sub Total	31,717	21,771	32,353	24,262	35,586	27,045	39,145	31,707	63,440	88,870
Total	396,358	274,256	404,285	303,214	444,714	337,982	479,642	388,510	311,729	507,391	
Cow Peas	Luwero	9	7	9	8	10	8	10	8	30	15
	Masaka									160	32
	Mpigi										
	Mukono										
	Sub Total	9	7	9	8	10	8	10	8	190	47
Total	49,629	38,836	41,966	36,965	46,460	38,450	46,452	37,556	9,377	7,851	
Field Peas	Luwero							9	5		
	Masaka	329	183	411	203	433	356	457	229	181	91
	Mpigi									284	199
	Mukono	4	2	4	2	4	4	4	2		
	Sub Total	333	185	415	205	437	360	470	236	465	290
Total	17,617	9,776	21,988	10,855	23,156	11,618	24,285	12,143	5,552	4,150	
Finger Millet	Luwero		1,091		1,426		1,635		1,757		340
	Masaka	233	291	237	379	279	434	362	579	239	263
	Mpigi	152	190	155	248	183	285	226	361	10	5
	Mukono	2,452	3,065	2,500	4,000	2,274	3,541	2,246	3,591	6,455	3,873
	Sub Total	2,837	4,637	2,892	6,053	2,736	5,895	2,834	6,288	7,044	4,821
Total	341,699	427,124	323,944	518,310	371,476	578,415	381,242	609,579	240,437	342,436	
Cotton	Luwero									202	121
	Masaka										
	Mpigi										
	Mukono										
	Sub Total									202	121
Total									56,021	43,853	

Source: Data of 1986-1988 are Statistic Department, MPED.

Date of 1990 are Uganda National Census of Agricultural and Livestock.

Note: Total represent the whole Uganda. Total of 1990 exclude Gulu, Kitgum, Kotido, Kumi, Moroto and Soroti districts.

Table A2.3.1.2 Mulberry Tree Planted Area in 1993

Unit : ha

Bushenyi	Masaka	Mpigi	Luwero	Mukono	Jinja	Iganga
472<	64	312	124	112	24	692

Source : Kawanda Agricultural Research Institute

Table A2.3.1.3 Main Horticultural Crops Grown in the Study Area

English name/Vernacular	Scientific name
<u>Vegetables</u>	
Dodo	Amaranthus lividus
Bugga	A. lividus var. oleraceus
Lettuce	Lactuca sativa
Spinach	Spincia oleracea
Okura	Abelmoschus esculentus
Pumpkin	Cucurbita maxima
Marrow	C. pepo cv. nuedullosa
Cucumber	Cucumis sativus
Watermelon	Citrullus lanatus
Tomato	Lycopersicum esculentum
Eggplant	Solanum melongena
Bitter berries	S. gilo
Nakati	Solanum sp.
Ntula	S. naumanii
Jioby	Gnandropsis gynandra
Pepper	Capsicum frutescens
Green pepper	C. annum var. angulosum
Chayote	Sechium edule.
Onion	Allium cepa
Garlic	A. sativum
Leeks	A. porrum
Carrots	Daucus carota
Cabbage	Brassica oleracea var. capitata
Cauliflower	B. oleracea
Brussels sprouts	B. oleracea var. gemmifera
Turnip	B. rapa
Chinese cabbage	B. pekinensis
Radish	Raphanus sativus
Endive	Cichorium endivalatiforia
Beet root (Spinach beet)	Beta vulgaris
Parsley	Petroselinum crispum
French bean	Phaseolus vulgaris
Celery	Apium graveolens dullucci
Coriander	Coriandrum salivum
<u>Fruit trees and fruits</u>	
Sweet orange	Citrus sinensis
Sour orange	C. aurantium
Tangerines	C. nobilis
Lemons	C. limon
Mango	Magifera indica
Avocado	Persea americana
Guava	Psidium guajava
Jackfruit	Artocapus interu
Pawpaw	Carica papaya
Pineapple	Ananas comosus
Passion fruit	Passiflora spp.
Strawberry	Fragaria spp.

2.3.2 Farm Management

Table A2.3.2.1 Overview of Small Farmers (under 2ha)
by Farm Management Type

(1) Farm Labor Unit : Men

Farm Management Type	Members of Family	Males >>15age	Working on Farm	Working on Farm(M)	Working on Farm(F)	Hired Labrrs	Cultivated area (ha)
Banana/Coffee	8.6	1.9	3.0	1.7	1.3	0.3	2.0
Banana/Tea/etc	8.9	3.6	3.2	2.1	1.1	1.3	2.2
Horticulture	9.7	1.9	3.3	1.9	1.4	1.9	2.1
Cereals/Oil.C	10.9	2.7	3.8	1.9	1.9	1.4	2.0
Cotton/Oil.C	14.1	3.9	4.1	2.6	2.5	1.1	2.6
Banana/Tub->New	10.1	2.4	3.0	1.8	1.2	1.5	2.4
Banana/Tub/Liv	7.8	2.3	3.2	1.7	1.5	1.2	2.1
Average	10.0	2.5	3.5	1.9	1.6	1.3	2.1

(2) Production cost Unit : 000USH

Farm Management Type	Wage of hired	Seed	Ferti- lizer	Chemical	Tool/ Machi- nery
Banana/Coffee	114	39	41	35	19
Banana/Tea/etc	337	29	23	106	47
Horticulture	315	66	76	169	38
Cereals/Oil.C	331	147	49	350	82
Cotton/Oil.C	452	23	65	207	47
Banana/Tub->New	348	44	43	142	41
Banana/Tub/Liv	371	15	245	40	104
Average	301	80	63	180	52

(3) Agricultural income Unit : 000USH

Farm Management Type	Agricul- tural income	Agr. expendi- ture	Balance	From other sources	Total net income
Banana/Coffee	980	277	703	82	785
Banana/Tea/etc	1,633	1,073	561	211	772
Horticulture	1,800	972	828	153	980
Cereals/Oil.C	1,191	629	562	1,079	1,641
Cotton/Oil.C	1,335	683	652	220	872
Banana/Tub->New	1,247	816	431	246	677
Banana/Tub/Liv	1,480	571	909	605	1,515
Average	1,067	589	458	660	1,117

Source : FIS

Note : Oil.C : Oil Crops, Tub : Tubers, Liv : Livestock

Table A2.3.2.2 Overview of Representative Farmers by Farm Size

(1) Farm Labor

Unit : Men

Farm Size	Members of Family	Males >>15age	Working on Farm	Working on Farm(M)	Working on Farm(F)	Hired Labors	Cultivated Area (ha)
Under 2ha	8.8	2.4	3.5	1.7	1.8	1.1	1.4
2.1-5.0 ha	11.4	3.0	3.8	2.3	1.5	1.7	3.5
5.1-10.0	16.1	4.3	5.7	2.9	2.8	3.9	8.1
10.1-20	14.8	4.9	5.2	3.1	2.1	5.3	15.9
20.1-30	16.0	4.8	5.3	3.0	2.3	5.5	27.2
30.1-70	13.5	5.3	5.0	2.7	2.3	12.1	55.2
Over 70 ha	17.9	5.4	2.7	1.4	1.3	30.1	88.6
Average	13.1	3.8	4.5	2.5	2.0	4.1	12.4

(2) Production Cost

Unit : 000USHS

Farm Size	Wages of Hire	Seed Cost	Ferti-lizer	Chemical	Tool/Machi-nery
Under 2ha	248	115	76	118	39
2.1-5.0 ha	532	60	61	159	102
5.1-10.0	975	160	111	263	217
10.1-20	2453	176	172	344	287
20.1-30	1807	107	200	363	200
30.1-70	2300	958	88	701	1231
Over 70 ha	5746	102	164	955	697
Average	1228	150	108	280	215

(3) Agricultural Income

Unit : 000USHS

Farm Size	Agricul-tural Income	Agr. Expendi-ture	Balance	From Other Sources	Total Net Income
Under 2ha	1047	589	458	660	1117
2.1-5.0 ha	2981	1921	1060	349	1409
5.1-10.0	5899	3182	2717	1739	4456
10.1-20	7387	4149	3238	926	4164
20.1-30	10959	7403	3556	358	3915
30.1-70	13700	8168	5532	4367	9899
Over 70 ha	27721	14220	13500	1357	14858
Average	5713	3346	2367	956	3323

Source : FIS

Table A2.3.2.3 Farmers Loans

(1) Amount of Loans and Number of Farmers involved

Farm Size	Amount of Loan (000USHS)			Number of Farmer			Total	%
	Long Term	Medium Term	Short Term	Long Term	Medium Term	Short Term		
Under 2ha	7,034	15,404	4,650	1	4	5	10	14
2.1-10.0 ha	16,510	22,000	2,375	10	3	10	23	32
10.1 ha <	314,060	187,150	34,519	15	12	11	38	54
total	337,604	224,554	41,544	26	19	26	71	100

(2) Number of Farmers by Interest Rate

	< 20%	20%	21-30%	31-39%	40%	41% <
No. of Farmer	6	13	10	18	13	5

(3) Number of Farmers by Amount of Loans

Farm Size	Under 499 '000USHS	500- 1,000 '000USHS	1,001- 5,000 '000USHS	5,001- 10,000 '000USHS	10,001 over '000USHS	Total
Under 2ha						10
Long Term				1		1
Med Term	1	1			2	4
Short Term	3		2			5
2.1-10.0 ha						23
Long Term	2		1	1	6	10
Med Term			1	1	1	3
Short Term	9		1			10
10.1 ha <						38
Long Term	1		1	2	11	15
Med Term	3	1	1	2	5	12
Short Term	6	1	1	2	1	11

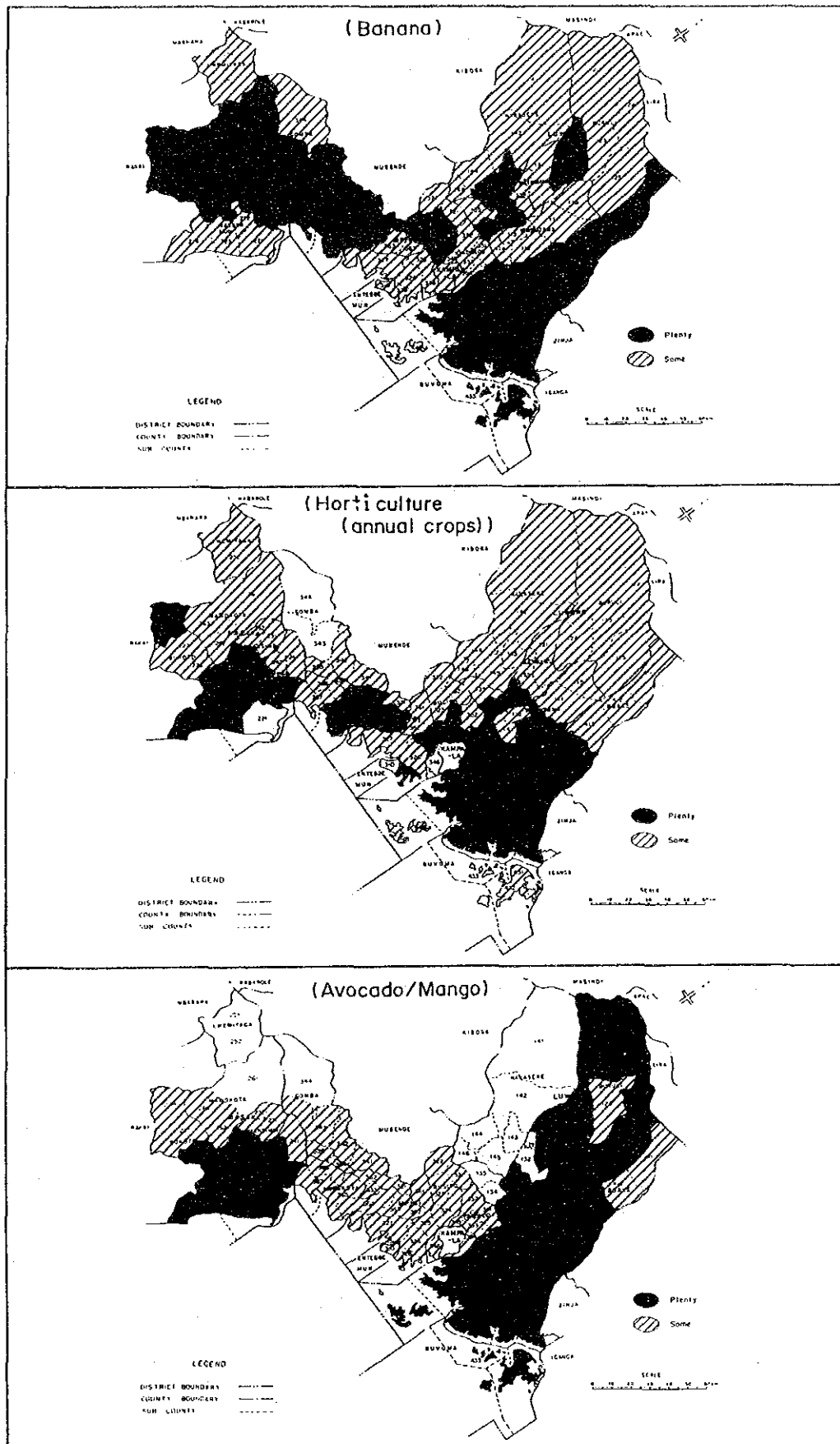
(4) Farmers Income By Farm Size
(Loan using farmers)

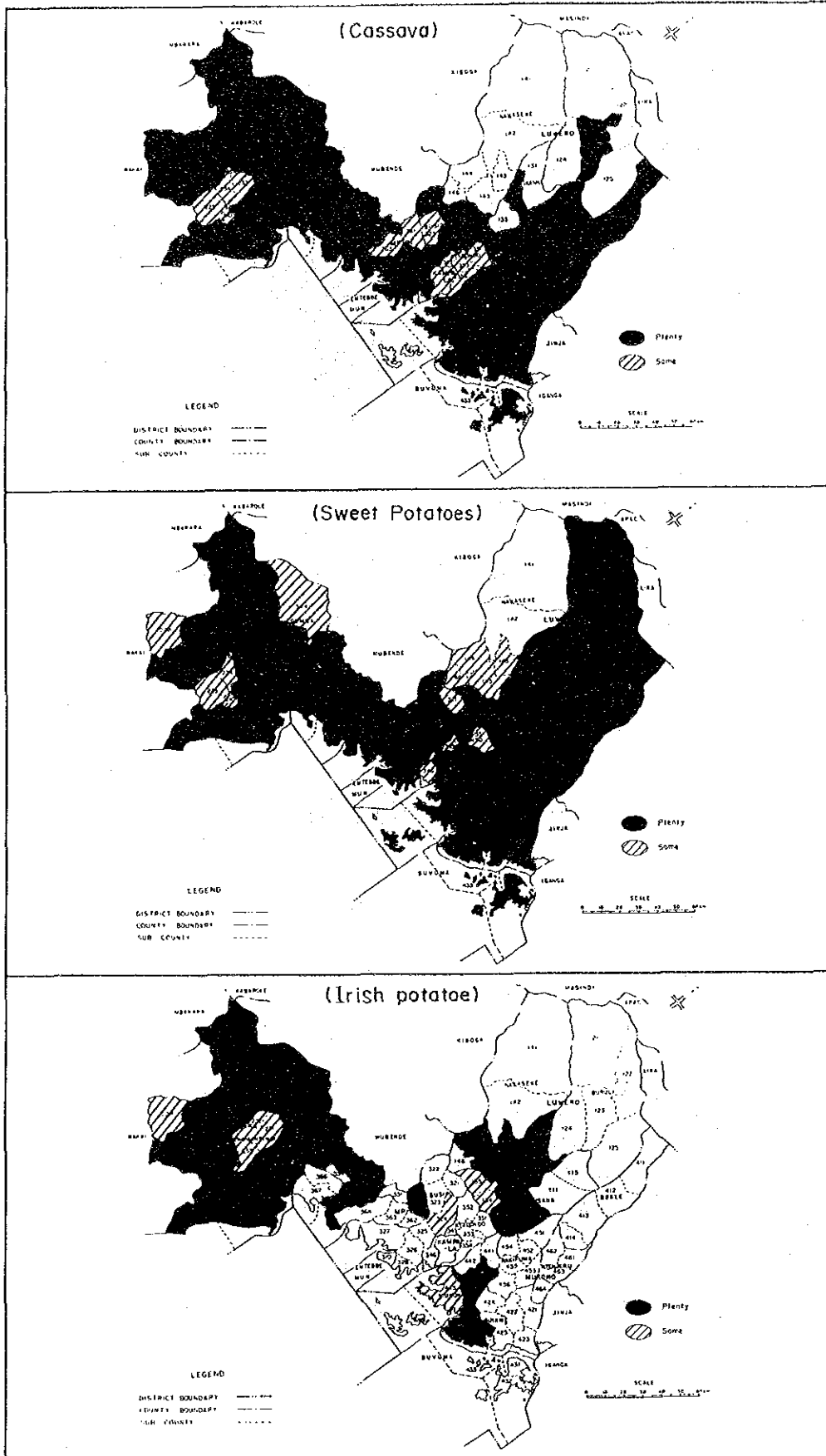
Farm Size	Gross Income 000USHS	Prod. Cost 000USHS	Net Income 000USHS
> 2.0ha	1344.1	894.1	450.1
3.1-10.0	5614	3171.5	2442.5
10.0ha <	9278.4	5615	3663.4
Average	6973.8	4158.5	2815.3

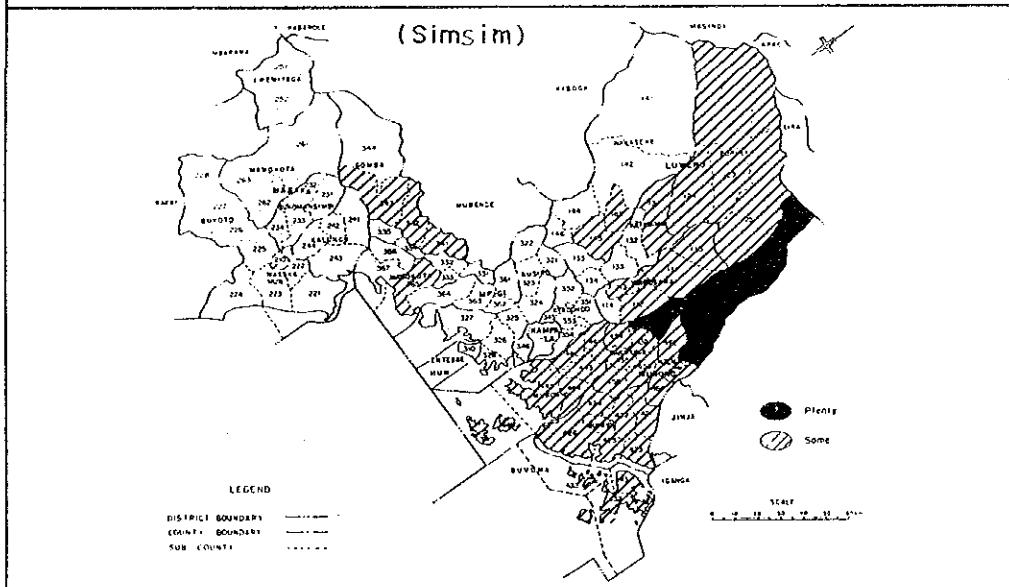
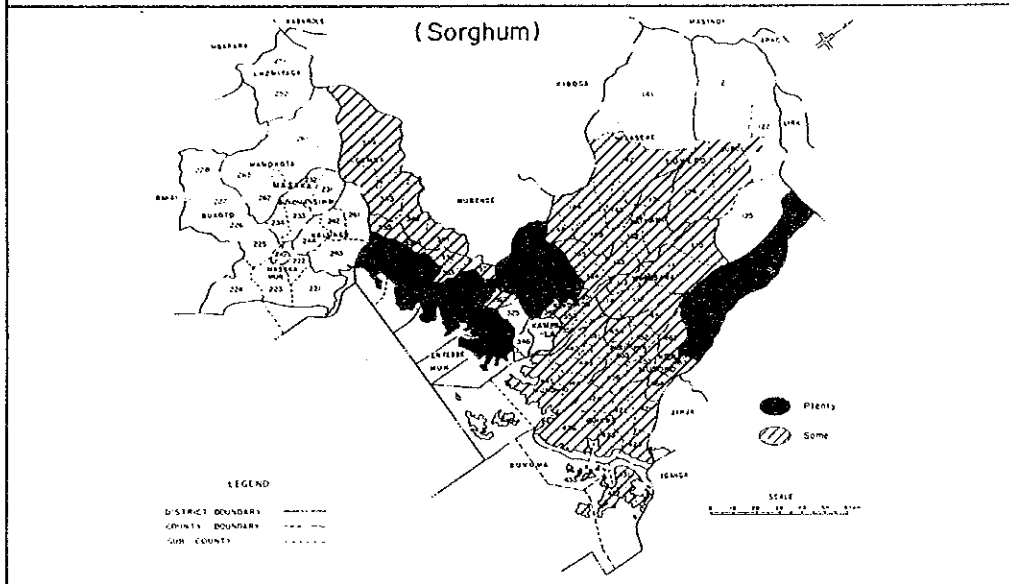
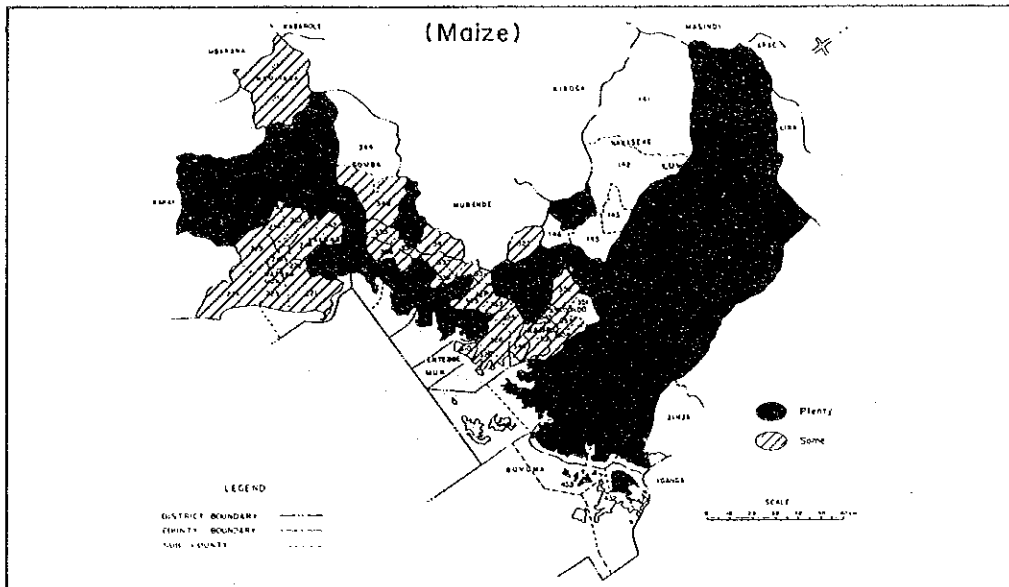
Source : FIS

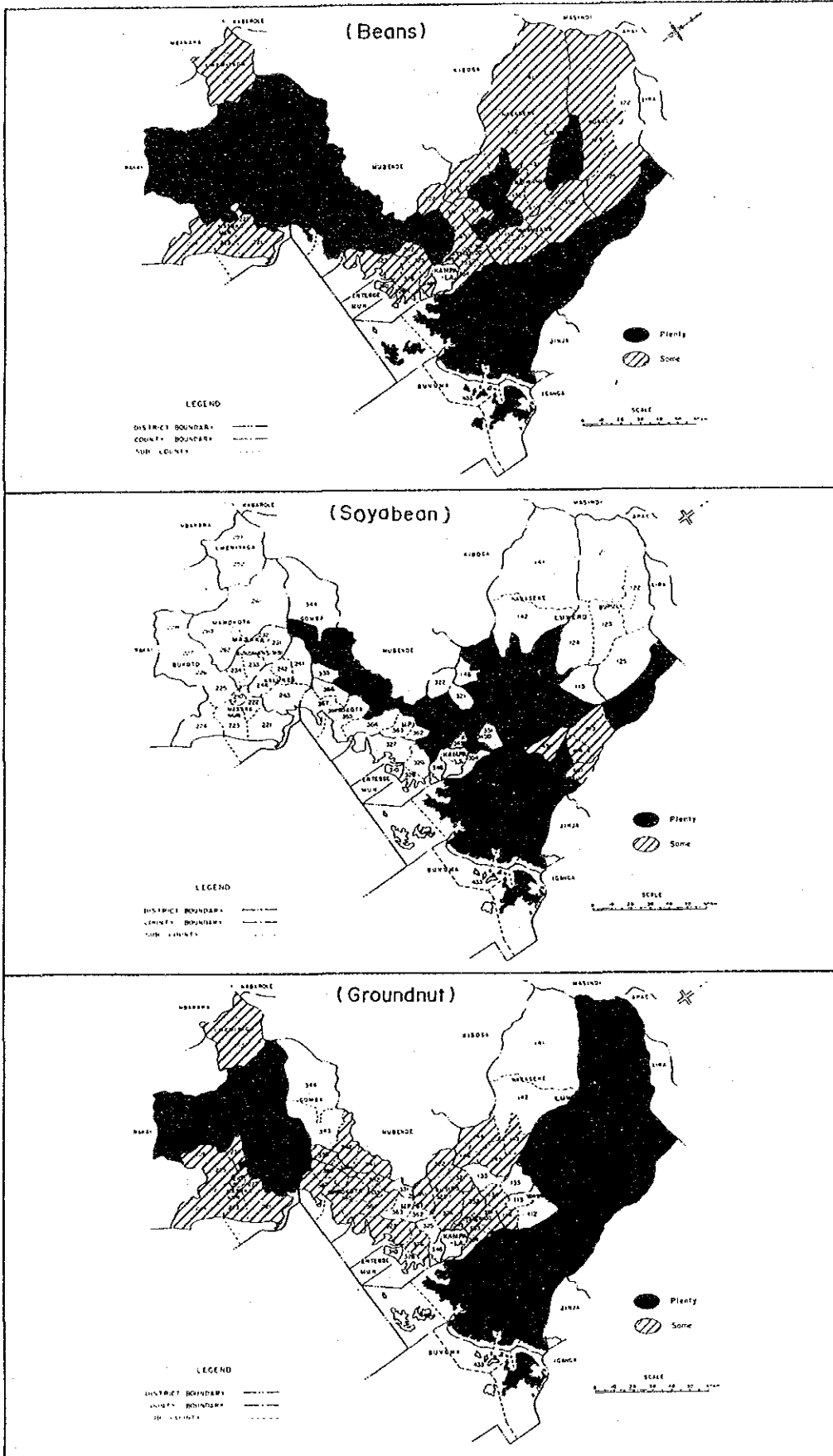
Figure A2.3.2.1 Map of Actual Crop Cultivation from FIS

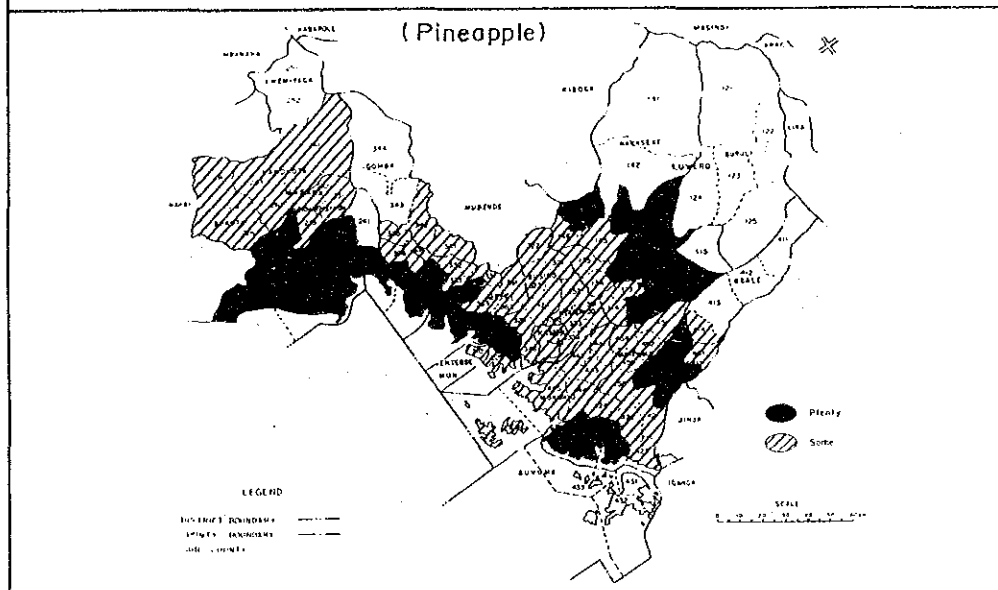
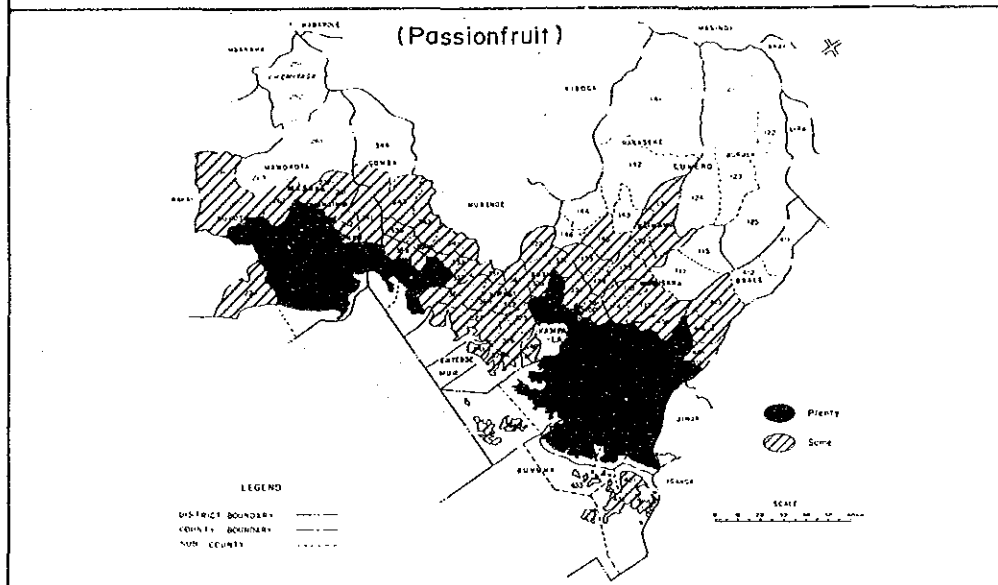
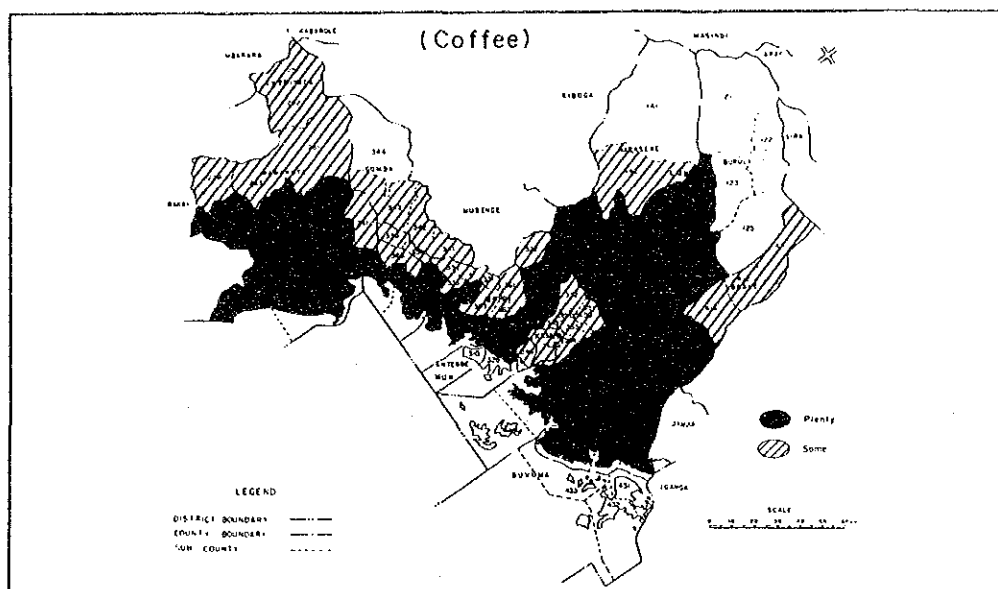
(1/9)

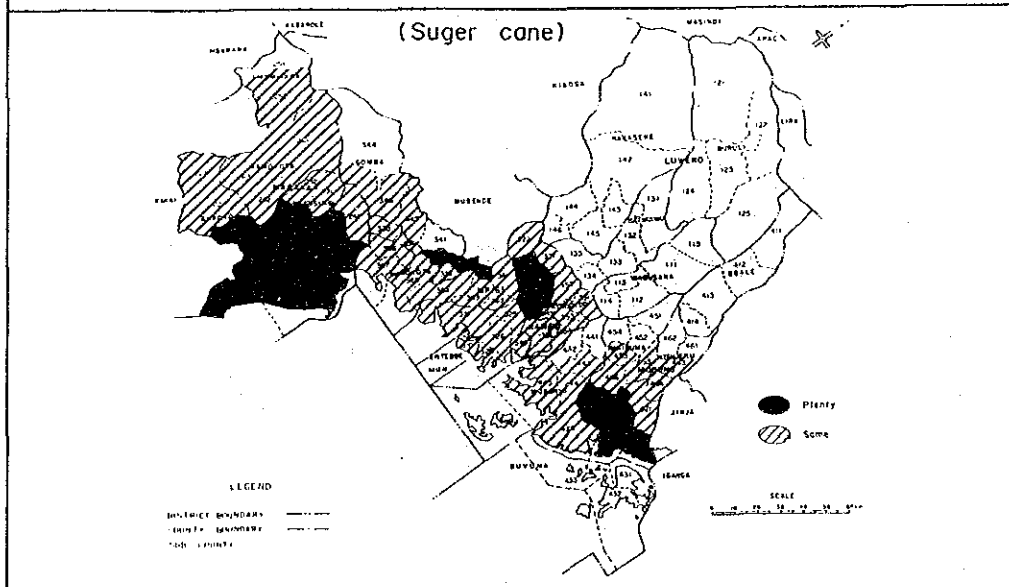
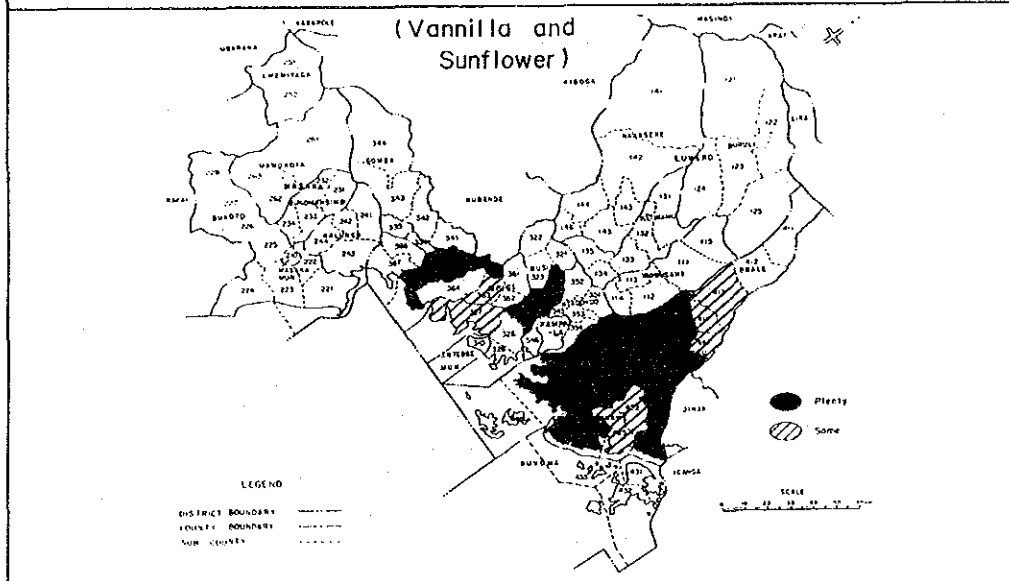
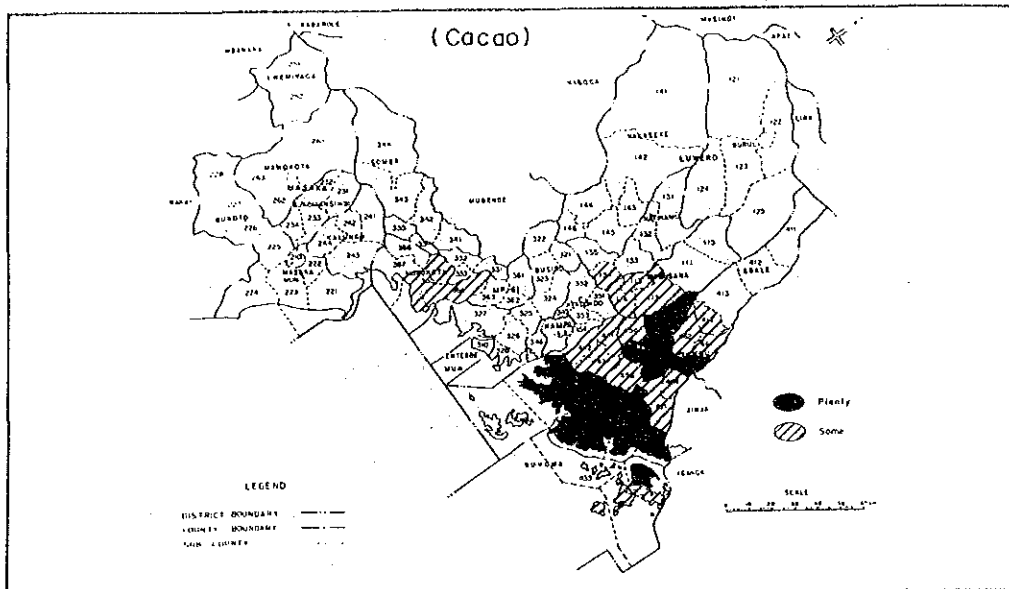


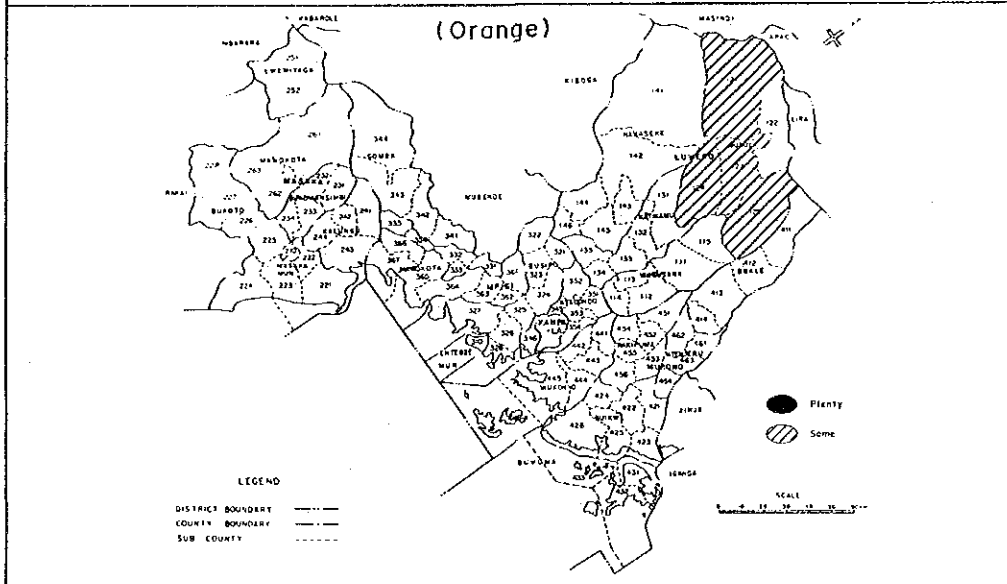
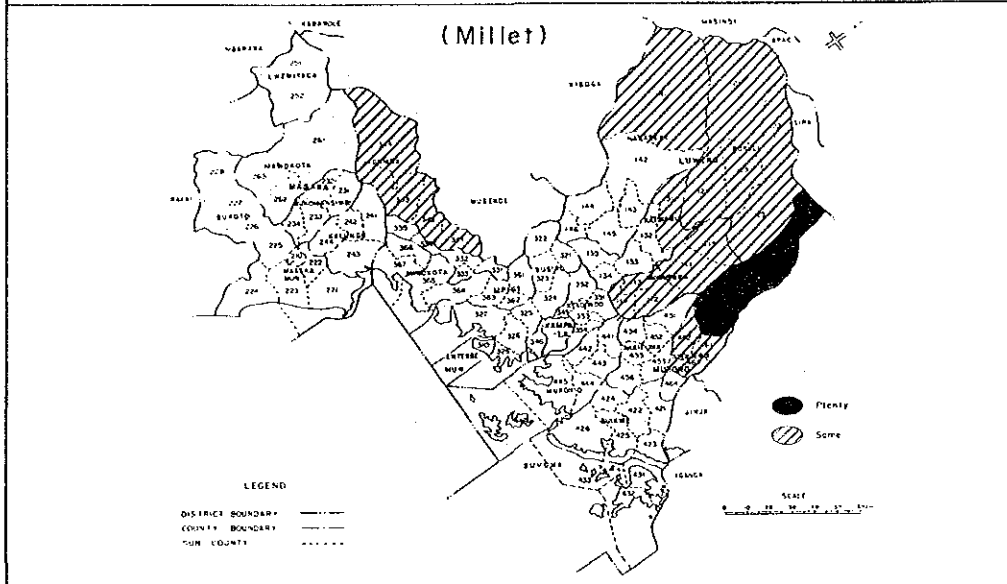
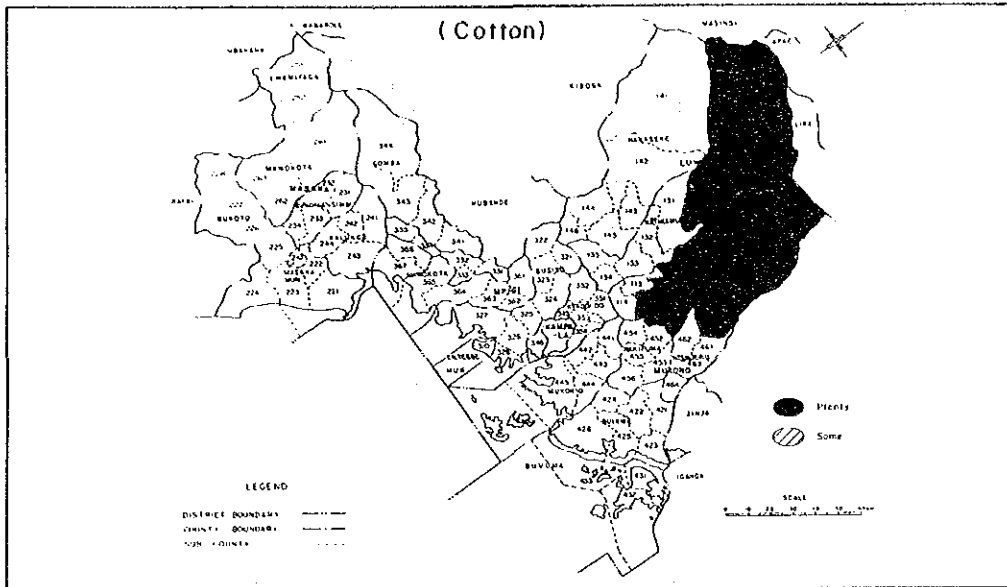


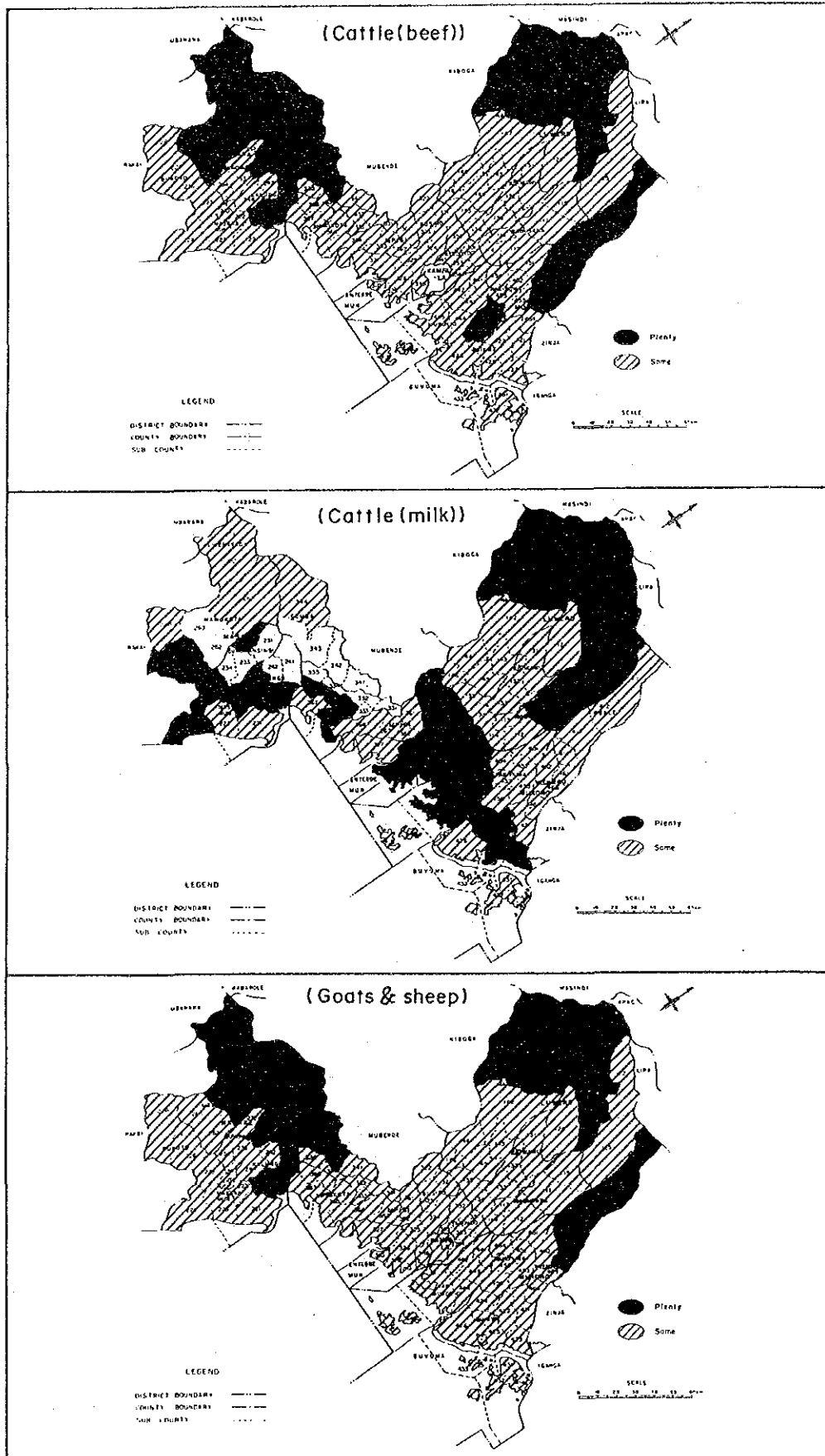


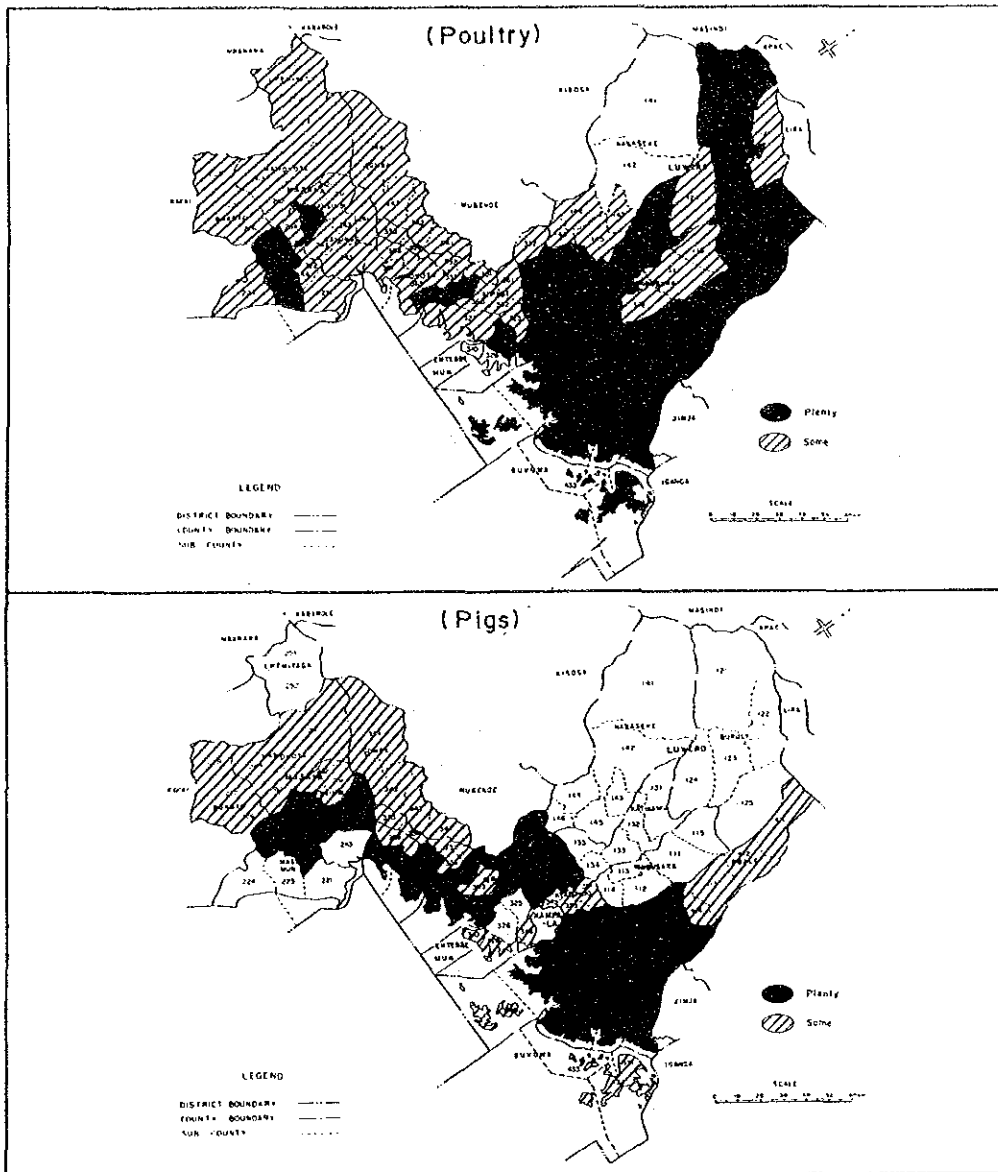












Appendix 2.4 Livestock

2.4.1 Animal Husbandry

Table A2.4.1.1 Consideration on Head of Animals

Year	Source	Cattle					Goats				
		Luwero	Masaka	Mpigi	Mukono	TOTAL	Luwero	Masaka	Mpigi	Mukono	TOTAL
1980	MAAIF	468,451					46,378				
1985	MAAIF								26,084		
1986	MAAIF	110,000		117,817					26,582		
1987	MAAIF	150,000	265,319	111,817			4,281		26,976		
	EEC	89,983	255,743	115,573	108,152	569,451	15,596	83,871	27,150	60,282	186,899
1988	MAAIF	160,100		117,935			5,220		29,270		
1989	-do-	176,105		104,510			5,395		27,611		
1990	-do-	210,985	265,000	111,603			9,112		27,873		
1991	MAAIF	234,400	240,417	110,737	(81,294)		9,341		29,092		
1991	Census	27,193	528,017	222,896	81,294	859,400	43,802	115,459	58,913	148,797	366,971
	Luwero	Adopt 234,400 reasonable from the trend from 1980. At least Census might miss ranchers									
	Masaka	Adopt 240,417 seeming reasonable to be nearly equal to Luwero from the point of view of similarity of livestock system and grass resources									
	Mpigi	Adopt 110,737, It is predominant in small-scale livestock system and must be nearly half of Luwero and Masaka									
	Mukono	Adopt 81,294 seeming reasonable in comparison with Mpigi and no data available from MAAIF									
Couside-ration		Census data are adopted for four Districts for the reason of : i) MAAIF data for Luwero fluctuates greatly by year ii) MasakaMAAIF data shows reasonable increase from 1987 to 1991									

(2) Sheep, Pigs

Year	Source	Sheep					Pigs				
		Luwero	Masaka	Mpigi	Mukono	TOTAL	Luwero	Masaka	Mpigi	Mukono	TOTAL
1980	MAAIF	20,175					3,581				
1985	MAAIF			11,041				2,095	8,534		
1986	MAAIF			11,569				2,455	9,817		
1987	MAAIF	1,470		12,110			19,774	50,349	12,166		
	EEC	4,856	16,889	12,423	16,549	50,717			12,166	29,140	111,429
1988	MAAIF	1,740		10,369			28,820	2,231	39,251		
1989	-do-	1,910		12,749			31,699	4,351	13,924		
1990	-do-	2,416		13,071			57,679	25,449	20,674		
1991	MAAIF	2,444		12,806			25,797	15,095	17,003		
1991	Census	3,060	11,842	10,892	50,449	76,243	37,661	27,624	44,210	77,148	186,643
Couside- ration		Census data is adopted for all Districts for the reason of : Both MAAIF and Census data in 19 91 are close for Luwero and Mpigi					Census data is adopted for all Districts				

(3) Chicken

Year	Source	Chicken					TOTAL
		Luwero	Masaka	Mpigi	Mukono		
1985	MAAIF						
1986	MAAIF			1,580			
1987	MAAIF EEC	17,486	29,630 14,700	2,350	19,900		
1988	MAAIF	14,930	18,325		40,290		
1989	-do-		37,857	5,800			
1990	-do-	21,650	49,955	5,980			
1991	MAAIF	20,600	45,150	3,400			
1991	Census	345,687	389,215	672,171	362,055		
Couside- ration		Census data is adopted for all District for the reason the MAAIF data seem far less taking account of chicken meat consumption which is assumed to be 1.4kg per capita.					

Table A2.4.1.2 Head of Cattle by Husbandry System

Husbandry system	Livestock type	Luwero & Masaka				Mpigi & Mukono				Total		
		Luwero		Masaka		Mpigi		Mukono		AVE. Heads	Heads	Holdings
		Ave. Heads	Holdings	Heads	Holdings	Heads	Holdings	Heads	Holdings			
1. Free range	Beef	(54%) 127,113	4,952	(60%) 144,240	7,624	(75%) 83,053	15,390	(73%) 59,425	18,790		413,831	46,756
1.1 small holder		1-10 60	9,657	23,460	5,611	1-10 60	46,260	14,777	18,727	1-10 60	135,008	42,082
1.2 large holder			1,958	120,780	2,013		36,793	613	63		278,823	4,647
2. Ranches	Beef	(45%) 105,562	132	(40%) 95,265	114	(22%) 24,518	154	(20%) 15,882	38		241,227	438
2.1 GSR		1,000	27,000	41,000	41	1,750	1,750	1	-	1,011	69,750	69
2.2 PR		748	78,562	54,265	73	149,748	22,768	153	38	465	171,477	369
3. Paddocking	Dairy	(1%) 21	1,642	(-%) 852	40	(3%) 3,000	171	(7%) 5,583	319	18	11,077	607
4. Zero-grazing	Dairy	2	83	60	40	2	166	83	205	2	713	382
Total			234,400	240,417	7,818	110,737	15,798	81,294	19,352		666,848	48,183

Note

1. GSR: Government Sponsored Ranches PR: Private Ranches
2. Regarding average heads Figures of Luwero are applied to Luwero, Masaka. Figures of Mpigi to Mukono
3. Assumption by District
 - Luwero : Data of DVO for 2,3,4, 1 is remaining,
 - Masaka : Data of DVO to holdings in 3,4,GSR, 1 is 60% from DVO, data remaining to PR,
 - Mpigi : Data of DVO to 1(75%) and 2, remaining to 3 and 4,
 - Mukono : Data of DVO to 2,3,4, remaining to 1,
4. 1.1 is estimate based on National Census of Agriculture and Livestock (1991)

2.4.2 Grasslands

Table A2.4.2.1 Present Grass Requirement and Grassland

(1) Grass Requirement

County	Dairy Cattle			Beef Cattle			Goats & Sheep		Total Grass Requirement (ton) ⑨=③+⑥+⑧	Grassland Requirement (ha) ⑩
	Total Heads ①	Cow (42.4%) ②	Grass Requirement (ton) ③=②×23.034kg	Total Heads ④	Cow (38.2%) ⑤	Grass Requirement (ton) ⑥=⑤×23.064kg	Total Heads ⑦	Grass Requirement (ton) ⑧=⑦×1.336kg		
Luwero	1,725	731	16,838	232,675	88,882	2,047,309	46,900	69,928	2,114,075	247,330
Bururi	1,139	483	11,125	153,566	58,662	1,351,221	24,951	37,202	1,399,548	165,870
Kaikama	121	51	1,175	16,287	6,222	143,318	5,768	8,600	153,093	16,600
Nakasoke	276	117	2,695	37,228	14,221	327,567	2,158	3,218	333,480	38,980
Wausana	189	80	1,843	25,594	9,777	225,203	14,023	20,908	247,954	25,880
Masaka	912	386	8,891	239,505	91,491	2,107,404	127,200	189,656	2,305,951	265,390
Bukomansibi	82	35	806	21,555	8,234	189,662	16,917	25,323	215,691	21,360
Bukoto	264	112	2,580	69,456	26,532	611,138	35,107	52,345	666,063	70,530
Kalungu	178	73	1,681	45,506	17,383	400,400	33,708	50,259	452,340	45,000
Lwemyaya	123	54	1,244	33,531	12,809	295,043	14,247	21,242	317,529	42,780
Mawesola	265	112	2,580	69,457	26,533	611,161	27,221	40,587	654,328	85,090
Masaka M.	0	0	0	0	0	0	0	0	0	0
Mpigi	3,166	1,341	30,890	107,571	41,091	946,491	69,800	104,072	1,081,453	117,570
Entebbe M.	63	27	622	2,151	822	18,934	140	209	19,765	2,970
Busiro	253	107	2,465	8,606	3,287	75,713	20,452	30,494	108,672	9,870
Butanbara	253	107	2,465	8,606	3,287	75,713	7,538	11,239	89,417	8,860
Gomba	2,090	886	20,408	70,997	27,121	624,705	23,174	34,552	679,665	78,330
Kyadondo	253	107	2,465	8,606	3,287	75,713	9,248	13,789	91,967	8,760
Mawokota	253	107	2,465	8,606	3,287	75,713	9,248	13,789	91,967	8,780
Makono	5,987	2,538	58,460	75,307	28,767	662,619	199,200	297,007	1,018,086	85,530
Bbale	1,437	609	14,028	18,074	6,904	159,027	31,473	46,926	219,981	24,640
Buikwe	2,095	888	20,454	26,357	10,068	231,906	69,123	103,062	355,422	23,420
Buvuma	239	101	2,326	3,012	1,151	26,512	4,183	6,237	35,075	3,260
Mukono	1,197	508	11,701	15,061	5,753	132,515	25,497	38,016	182,232	17,930
Nakijuma	599	254	5,851	7,531	2,877	66,269	34,263	51,086	123,206	9,330
Nicnjeru	420	178	4,100	5,272	2,014	46,390	34,661	51,680	102,170	6,930
TOTAL	11,790	4,996	115,079	655,058	250,231	5,763,823	443,100	660,663	6,539,565	715,820

Note : ⑩=②+③ in Table A2.4.2.1 (2)

Cow composition in Table A2.4.2.2 (2),(3)

Grass requirement in Table A2.4.2.2 (1),(4)

(2) Grassland

County	Total Grass Requirement (ton) ①	Public land						Private land						Balance
		Public Grass land (ha) ②	L. ty. rate (%) ③	Land area by type (ha) ④	Grass production (ton) ⑤ = ③ × ④	Eat rate (%) ⑥	Grass Consump. (ton) ⑦ = ⑤ × ⑥	Private Grass land (ha) ⑧	L. ty. rate (%) ⑨	Land area by type (ha) ⑩	Grass production (ton) ⑪ = ⑨ × ⑩	Eat rate (%) ⑫	Grass Consump. (ton) ⑬ = ⑪ × ⑫	
Luwero	2,134,075	73,030		73,030	1,847,203	28.4	525,371	174,300		174,300	6,193,284	28.4	1,761,464	152,760
Bunuri	1,399,548	57,210	D	57,210	1,430,250	28.4	406,785	108,660	D	108,660	3,803,100	28.4	1,081,659	88,896
Kaukamu	153,093	2,570	D	1,061	26,525	28.4	7,544	14,030	D	14,030	202,790	28.4	57,677	13,158
			P	1,509	42,252	28.4	12,017		P	8,236	312,968	28.4	89,013	
Nakasoke	333,480	8,230	D	6,438	160,700	28.4	45,705	30,750	D	24,016	840,560	28.4	239,068	38,423
			P	1,802	50,456	28.4	14,350		P	6,734	255,892	28.4	72,780	
Wabusana	247,954	5,020	D	1,180	29,500	28.4	8,390	20,860	D	4,902	171,570	28.4	48,797	12,283
			P	3,840	107,520	28.4	30,580		P	15,958	606,404	28.4	172,470	
Masaka	2,305,951	79,540		79,540	1,924,369		547,320	185,850		185,850	6,507,483		1,850,826	92,195
Bukomansibi	215,691	7,100	P	7,100	198,800	28.4	56,542	14,260	P	14,260	541,880	28.4	154,119	-5,030
Bukoto	666,063	25,380	D	10,837	270,925	28.4	77,055	45,150	D	19,279	674,765	28.4	191,913	-1,672
			P	14,543	407,204	28.4	115,815		P	25,871	983,098	28.4	279,608	
Kalungu	452,340	2,020	P	2,020	56,560	28.4	16,087	42,980	P	42,980	1,633,240	28.4	464,518	28,265
Lwomiyaga	317,529	15,860	T	15,860	348,920	28.4	99,238	26,920	T	26,920	861,440	28.4	245,006	26,715
Mawogola	654,328	29,180	T	29,180	641,960	28.4	182,583	55,910	T	55,910	1,789,120	28.4	508,853	37,108
Masaka M.	0				0	28.4	0	630	P	630	23,940	28.4	6,809	6,809
Mpigi	1,081,453	63,490	P	63,490	1,626,064		462,477	54,080	P	54,080	2,011,186		572,011	-46,965
Entebbe T.	19,765		P	0	0	28.4	0	2,970	P	2,970	112,860	28.4	32,999	12,334
Busiro	108,672	620	P	620	17,360	28.4	4,937	9,250	P	9,250	351,500	28.4	99,972	-3,763
Butanbara	89,417	1,980	P	1,980	55,440	28.4	15,768	6,880	P	6,880	261,440	28.4	74,357	708
Gomba	679,665	60,760	T	50,552	1,263,800	28.4	359,444	17,570	T	83.2	511,630	28.4	145,515	-61,508
			P	10,208	285,824	28.4	81,293		P	16.8	112,176	28.4	31,905	
Kyadondo	91,967		P	0	0	28.4	0	8,760	P	8,760	332,880	28.4	94,676	2,709
Mawokota	91,967	130	P	130	3,640	28.4	1,035	8,650	P	8,650	328,700	28.4	93,487	2,555
Mukono	1,018,086	29,270		29,270	810,110		230,408	56,260		56,260	2,073,410		589,709	-197,969
Bhale	219,981	3,150	D	3,150	78,750	28.4	22,398	21,490	D	21,490	752,150	28.4	213,923	16,340
Buikwe	355,422	9,530	P	9,530	266,840	28.4	75,893	13,890	P	13,890	527,820	28.4	150,120	-129,409
Buvuma	35,075	1,800	P	1,800	50,400	28.4	14,335	1,460	P	1,460	55,480	28.4	15,779	-4,961
Mukono	182,232	5,960	P	5,960	166,880	28.4	47,463	11,970	P	11,970	454,860	28.4	129,369	-5,400
Nakifuma	123,206	5,330	P	5,330	149,240	28.4	42,446	4,000	P	4,000	152,000	28.4	43,231	-37,529
Ntenjeru	102,170	3,500	P	3,500	98,000	28.4	27,873	3,450	P	3,450	131,100	28.4	37,287	-37,010
Total	6,539,565	245,330		245,330	6,207,746		1,765,576	470,490		470,490	16,785,363		4,774,010	21

Note : ① from ⑨ in Table A2.4.2.1 (1)

Land types P : Pennisetum purpureum grass, D : Dry hyparrhenia grass, T : Themeda triandra grass

Table A 2.4.2.2 Grass Requirement for a unit Animal

(1) Cattle

(a) Beef Cattle

	Grass nutritive value			TDN (g)
	(kg)	DM (g)	DCP (g)	
Nutrient maintenance ration (day)		7500	200	2600
Nutrient Requirement /day		7500	396	3953
Wet season garss/day 164 days	36	7488	576	3960
Dry season garss/day 201 days	24.5	7546	196	3479
Total grass/year	10829			

(b) Dairy Cattle

	Grass nutritive value			TDN (g)
	(kg)	DM (g)	DCP (g)	
Nutrient maintenance ration (day)		9600	294	4100
Nutrient Requirement /day		9600	829.5	7846
Wet season garss/day 164 days	47	9776	752	5170
Dry season garss/day 201 days	34	10472	272	4828
Total grass/year	14542			

Total Requirement for a beef cattle (converted for a cow)

	TDN ratio (%)	Grass (kg)	Composition of head	Requirement Grass (kg)
Cow	100	10829	1	10,829
Bull	129	13969	0.03	419
Cow calf 0-6	34.5	1868	0.164	306
Bull calf 0-6	34.3	1857	0.164	305
Cow calf 7-12	60.7	6573	0.128	841
Bull calf 7-12	60.7	6573	0.128	841
Cow calf 13-18	74.9	8111	0.122	990
Heifer calf 19-27	86	9313	0.183	1,704
Heifer cow 28-39	101.3	10970	0.227	2,490
Bullock 13-24	79.5	8609	0.241	2,075
Bullock 25-36	91.3	9887	0.229	2,264
Total grass				23,064

* calf 0-6 = Requirement grass X 1/2 (Nursing)

Total Requirement for a Dairy cattle (converted for a cow)

	TDN ratio (%)	Grass (kg)	Composition of head	Requirement Grass (kg)
Cow	100	14,542	1	14,542
Cow calf 0-6	25	1817.8	0.172	313
Bull calf 0-6	24.5	1781.4	0.172	306
Cow calf 7-12	44.3	6,442	0.161	1,037
Bull calf 7-12	40.1	5,831	0.161	939
Heifer calf 13-20	55.5	8,071	0.214	1,727
Heifer cow 21-30	64	9,307	0.317	2,950
Bullock 13-18	52.1	7,576	0.161	1,220
Total grass				23,034

* calf 0-6 = Requirement grass X 1/2 (Nursing)

(2) Goat and Sheep
(a) Goat

Requirement of Grass (She-Goat 25kg)

Nutrient Requirement / day	Grass nutritive value				TDN (g)
	(kg)	DM (g)	DCP (g)		
Wet season garss/day 164 days	4.4	915.2	70.4	40	460
Dry season garss/day 201 days	4.4	1355.2	35.2		624.8
Total grass/year	1606				

Total Grass Requirement for a Goat

	live TDN ratio (%)	Grass (kg)	Composition of head	Requirement Grass (kg)
She-goat	25	1606	37.6	604
Buck	27	1110	1.5	17
Kid 0-2	4.8	211	9.3	20
Kid 3-6	11.1	978	16.9	165
Female Kid 7-12	16.1	960	8.4	81
Female kid 13-18	21.9	1309	9.6	126
Buckling Kid 7-12	19.4	1431	8.4	120
Buckling 13-18	26.7	1969	8.3	163
Total grass				1296

Goat ratio	79.5	1030
Sheep ratio	20.5	306
Requirement		
Grass / Head		1336

(b) Sheep

Requirement of Grass (Ewe 30kg)

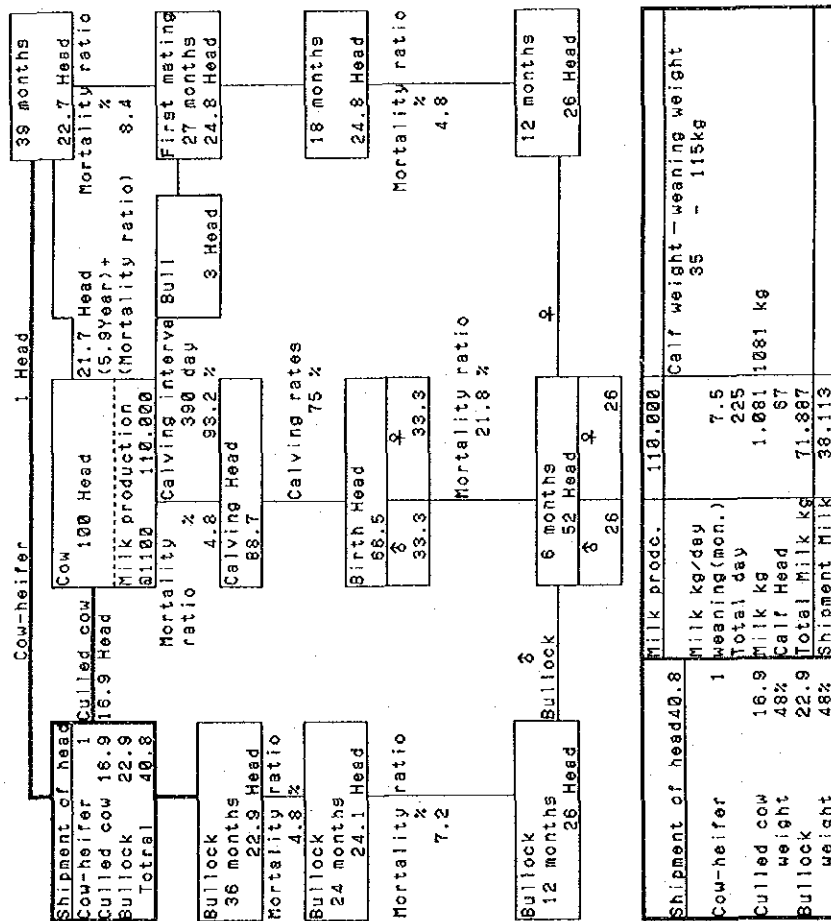
Nutrient Requirement / day	Grass nutritive value				TDN (g)
	(kg)	DM (g)	DCP (g)		
Wet season garss/day 164 days	5.5	1144	88		605
Dry season garss/day 201 days	4.9	1509.2	39.2		695.8
Total grass/year	1887				

Total Grass Requirement for a Sheep

	live TDN ratio (%)	Grass (kg)	Composition of head	Requirement Grass (kg)
Ewe	30	1,887	42.5	802
Ram	32	1,453	1.7	25
Lamb 0-2	5.5	264	9.9	26
Ewe lamb 3-6	12.7	1,227	9	110
Ewe lamb 7-12	18.7	1,227	13.5	166
Ewe lamb 13-18	25.8	1,698	13.3	226
Ram lamb 3-6	13.1	1,264	9	114
Ram lamb 7-7.5	25	2,038	1.1	22
Total grass				1491

TABLE A 2.4.2.3 Composition of a raising animal unit

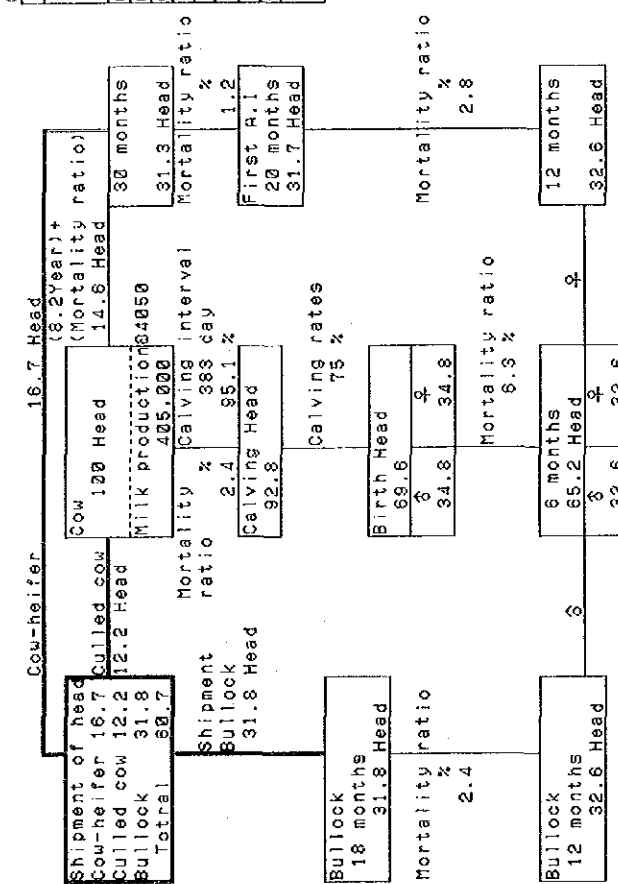
(1) Beef Cattle



Construction of head (base of csu head)

ITEM	Herd	Remarks	AUG. kg
Cow	100	Head X Day	mon weight
Bull	3	X 365 / 365	365
Calf ♀ 0~6	16.4	33.3 X 180 / 365	3 64.2
Calf ♂ 0~6	16.4	33.3 X 180 / 365	3 64.2
Calf ♀ 7~12	12.8	26 X 180 / 365	9 131.2
Calf ♂ 7~12	12.8	26 X 180 / 365	9 131.2
Cow Calf 13~18	12.2	24.8 X 180 / 365	15 183.7
Bullock Calf 13~24	24.1	24.1 X 365 / 365	18 207.1
Heifer Calf 19~27	18.3	24.8 X 270 / 365	22.5 236.9
Cow-heifer 28~39	22.7	22.7 X 365 / 365	33 301.3
Bullock 25~36	22.9	22.9 X 365 / 365	30 262.8
		Cow	
TOTAL	261.6	38.2	

(2) Dairy Cattle

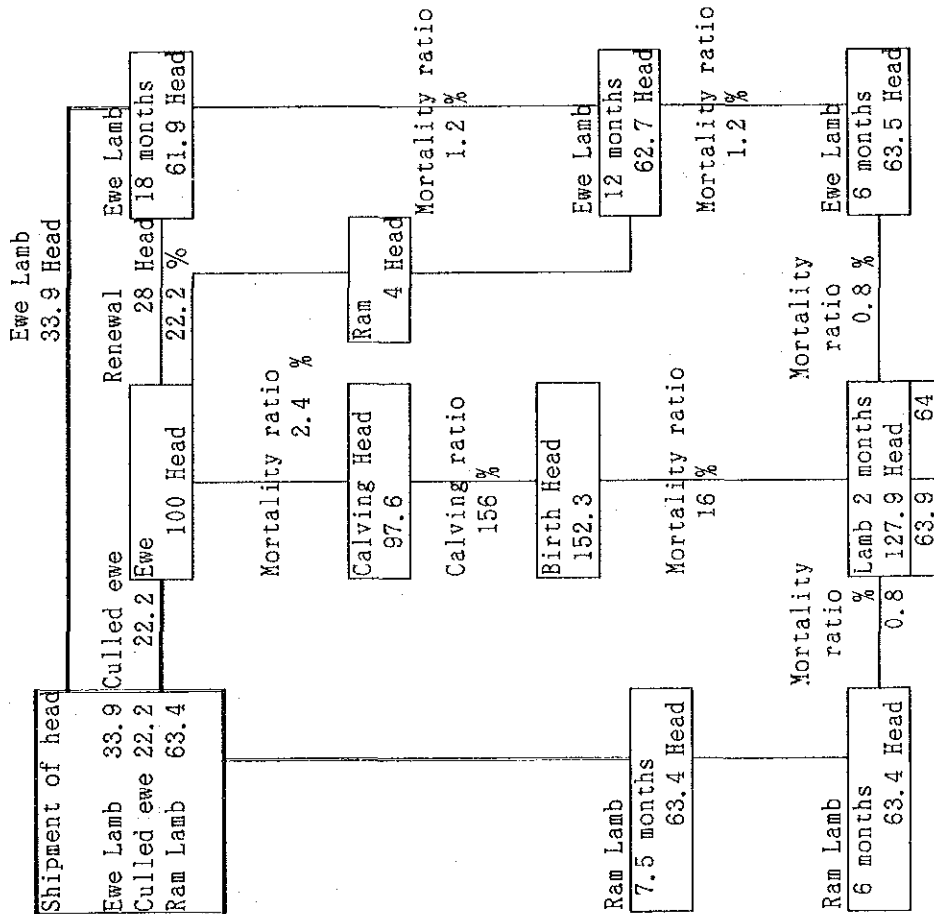


Construction of head (base of cow head)

ITEM	Herd	Remarks	
		Head X Day	mon weight
Cow	100	X 365 / 365	510
Calf ♂ 0~6	17.2	X 180 / 365	91.7
Calf ♀ 0~6	17.2	X 180 / 365	96.7
Calf ♂ 7~12	16.1	X 180 / 365	208.5
Calf ♀ 7~12	16.1	X 180 / 365	213.6
Heifer Calf 13~20	21.4	X 240 / 365	310
Cow-Heifer 21~30	31.7	X 365 / 365	420.6
Bullock 13~18	16.1	X 180 / 365	314.3
TOTAL	235.8	Cow%	42.4

Shipmt of head	60.7	Milk prod.	405,000	Calf weight - weaning w
Cow-heifer	16.7	Milk kcrday	8.6	40
		weaning (mon.)	5	104kg
Culled cow	12.2	Total day	150	Avg. 72 X 0.12
		Milk kg	1280	= 8.6 l
Bullock	31.8	Calf Head	70	
		Total Milk kg	89,784	
		Shipmt Milk	15,216	

(4) Sheep



Construction of head

ITEM	Head %	Herd	Remarks	AVG. mon	W. kg weight
Ram	1.7	4			32
Ewe	42.5	100			30
Lamb 0-2	9.9	23.4	152.3 127.9 (Birth Head+Lamb 2 months) X 1/2 X 2/12	1	5.5
Ewe Lamb 3-6	9	21.3	64 Head X 4/12	4	12.7
Ewe Lamb 7-12	13.5	31.8	63.5 Head X 6/12	9	18.7
Ewe Lamb 13-18	13.3	31.4	62.7 Head X 6/12	15.5	25.8
Ram Lamb 3-6	9	21.3	63.9 Head X 4/12	4	13.1
Ram Lamb 7-7.5	1.1	2.6	63.4 Head X 0.5/12	7.5	25
TOTAL	100	235.8	Ewe% 42.4		

2.4.3 Livestock Breeding and Sanitation

Table A2.4.3.1 Number of Artificial Insemination in 1991

District	Sub centre	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Reference Head of Dairy Cattle
Luwero	Luwero	20	15	20	-	22	13	22	18	17	9	-	-	156	1,725
Masaka	Masaka	11	24	18	10	21	13	25	21	16	14	25	13	211	912
Mpigi	Entebbe	84	70	91	87	53	56	78	79	103	72	56	70	899	
	Kabanyolo	74	67	61	82	62	59	67	81	54	61	41	68	777	
	Kamengo	15	14	30	5	20	16	16	30	19	13	17	11	206	3,166
Kampala	Kampala Dioc.	-	-	-	-	-	-	-	-	16	16	15	40	87	
	Mukono	56	47	41	44	46	40	42	42	39	42	56	42	537	
Mukono	Mukono Dioc.	42	29	41	26	18	22	29	32	30	-	-	26	295	
	Njeru	19	18	19	13	16	9	20	17	37	32	14	27	241	
	Ngogwe	5	3	-	-	-	-	-	-	-	-	-	-	8	
	Kayunga	-	-	16	8	9	18	-	9	18	7	4	4	93	5,987
Total	①	381	348	415	325	311	294	377	394	418	307	297	360	4,227	11,790
	①/② (%)	60.5	55.8	67.8	57.3	52.8	56.6	57.6	60.2	60.1	55.3	56.5	66.7	59	
26District	②	630	624	612	567	589	519	655	654	695	555	526	540	7,166	

Source : Artificial Breeding Centre

Table A 2.4.3.2 Animal Deaths Toll and Diseases Control by Major Diseases in 1991

Disease	Animal	Luwero		Masaka		Mpigi		Mukono		Total	
		Death Toll	No of Vaccine Dose	Death Toll	No of Vaccine Dose	Death Toll	No of Vaccine Dose	Death Toll	No of Vaccine Dose	Death Toll	No of Vaccine Dose
1. Tick Borne Diseases		-	6,246	123	784	311	2,420	57	4,005	2,564	18,336
East Coast Fever (ECF)	Cattle	1,205	1,490	27	137	120	312	28	217	491	13,455
Anaplasmosis		-	1,077	32	94	55	200	10	98	1,380	2,156
Babesiosis		-	786	13	13	566	142	17	315	97	1,469
Heart water		-	-	-	-	-	-	-	-	596	1,256
2. Worms Halminthiasis	C,G,S, P	※ Cattle only	77,291	-	-	566	19,941	28	26,700	594	123,932
3. Contagious Bovine Pleure Pneumonia (CBPP)	Cattle	xxxx	194,548	10	239,421	-	72,050	-	137,477	10	643,496
4. Trypanosomiasis	Cattle	xxxx	280,416	-	3,722	518	48,236	xxxx	75,629	518	408,003
5. Foot and Mouth Disease	Cattle	-	-	-	xxxx	-	-	-	-	0	0
6. Rinderpest	Cattle	-	194,548	-	239,421	-	72,050	-	137,477	0	643,496
7. Brucellosis	Cattle	-	1,503	-	-	-	613	-	-	0	2,116
8. Anthrax	Cattle	-	10,036	-	-	-	2,511	-	-	0	12,547
9. Black Quarter	Cattle	-	10,030	-	10,374	-	2,511	-	-	0	22,915
10. Lumpy Skin Disease	Chicken	10	290	56	-	xxxx	1,000	-	-	66	1,290
11. New Castle	Chicken	-	53,850	-	10,500	602	3,411	-	-	602	67,761
12. Fowl Typhoid	Chicken	6,143	36,520	-	xxxx	411	1,440	-	-	6,554	37,960
13. Coccioidiosis	Chicken	-	33,451	-	-	-	2,460	-	-	0	35,911
14. Fowl Pox	Chicken	-	400	-	-	-	-	-	-	0	400
15. Gumboro	Chicken	500	-	-	xxxx	-	-	-	-	500	0
16. Swine Fever	Pig	347	-	-	xxxx	1,420	xxxx	-	-	1,767	0
17. Rabies	Dog	-	954	-	1,204	23	1,841	-	1,000	23	4,999

Source : MAAIF DVO, Annual Report

Note : C : Cattle, G : Goat, S : Sheep, P : Pig

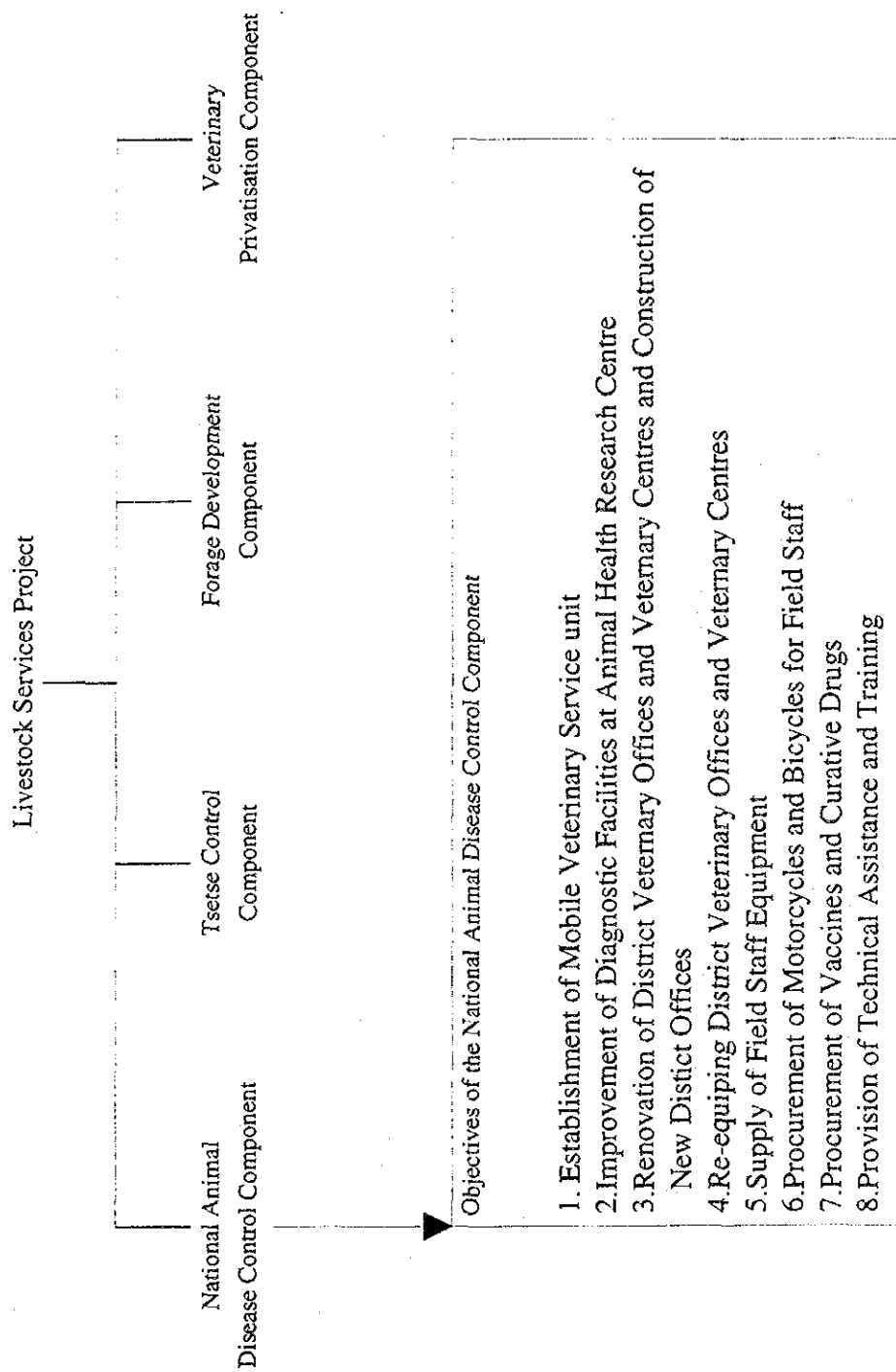
xxxx : no data

Table A 2.4.3.3 Animal Disease Control

Disease	Method of control	Treatment Frequency	Drugs used	Area	Unit Pack	Price USHS
1. Tick Borne Diseases	Tick Control	1-3 weeks	Supona Extra (Or Decatix)	Whole area	Per Liter	24,855 (55,000)
2. Contagious Bovine Pleure Pneumonia(CBPP)	Vaccination & quarantine	1-2 weeks	CBPP Vaccine	Rural 2T Dairy Area IT	Per Dose	100
3. Foot and Mouth Disease(FMD)	Vaccination & quarantine	1 year	FMD Vaccine	Whole area	Per Dose	100
4. Rinderpest	Vaccination & quarantine	1 year	Rind Vaccine	Whole area	Per Dose	100
5. Trypanosomiasis	Prophylaxis treatments	4 year	Samorin powder	North Luwero	Per Dose	340
		1 year	Veriben		Per Dose	497
		3 year	Samorin powder	South Luwero	Per Dose	340
		1 year	Veriben	Mukono	Per Dose	497
		2 year	Samorin powder	Masaka	Per Dose	340
		1 year	Veriben	Mpigi	Per Dose	497
6. Black Quarter	Vaccination	1 year	Blanthax Vaccine	Whole area	Per Dose	258
7. Anthrax	Vaccination	1 year	Authrax Vaccine	Whole area	Per Dose	645
8. Worms Halmnthiasis	Drench with Anthelmintics	2 year	Anthelmintics	Whole area		
9. Brucellisis	Vaccination	1 year	Brucella Abomtus (B.45/20),(B.S19)		Per Dose	3,628 3,044
10. New Castle	Vaccination		New castle Vaccine	Whole area	Per Dose	5
11. Fowl Typhoid	Vaccination	1 year	Fowl typhoid Vaccine	Whole area	Per Dose	74
12. Cocoidiosis	Prophylactic			Whole area		
13. Fowl Pox	Vaccination	12-20 weeks	Fowl pox Vaccine	Whole area	Per Dose	9
14. Gumboro	Vaccination	12-20 weeks	Gumboro Vaccine	Whole area	Per Dose	170
15. Rabies	Vaccination	1-3 year	Rabies Vaccine	Masaka	Per Dose	778

Source : MAAIF

Figure A 2.4.3.1 Components of Livestock Services Project (1991-1995)



2.4.4 Livestock Production and Consumption

Table A 2.4.4.1 Livestock Production and Consumption

(1) Beef, Milk

Countries	Population (1991)	Consumption ①				Dairy Cattle ②						Beef Cattle ③				Total ④=(②)+(③)		Balance ⑤=(④)-①	
		Beef ton	Milk ton	Head %	Head	Cow% 42.4%	Production		Head %	Head	Cow% 38.2%	Production		Beef ton	Milk ton	Beef ton	Milk ton		
							Beef	Milk				Beef	Milk						
Jawero	449,691	1,821.2	10,073.0	100	1,725	731	64.5	2,017.6	100	232,675	88,882	5,439.4	27,284.9	5,303.9	21,402.5	3,682.7	14,229.5		
Bunuri	100,497	407.0	2,251.1	66	1,139	483	42.6	1,353.1	66	153,566	58,662	3,990.0	14,708.0	3,632.6	15,041.1	3,225.6	13,790.0		
Katibamu	147,292	596.5	3,299.3	7	121	31	4.5	140.8	7	16,287	6,222	380.8	1,560.0	385.5	1,700.8	-211.2	-1,598.5		
Nabwaka	93,804	379.9	2,101.2	16	276	117	10.3	322.9	16	37,228	14,221	870.3	3,565.6	880.6	3,888.5	500.7	1,787.3		
Wanusana	108,098	437.8	2,421.4	10	189	80	7.1	230.8	11	35,594	9,777	598.3	3,451.3	605.4	3,672.1	167.6	250.7		
Masaka	838,736	3,487.2	19,746.1	100	912	386	34.2	1,065.3	100	239,505	91,491	5,998.9	22,939.7	5,633.1	34,004.4	2,145.9	4,258.5		
Bukomansibi	126,549	512.5	2,834.7	9	82	35	3.1	96.6	9	21,555	8,234	503.9	2,064.5	507.0	2,161.1	-5.5	-673.6		
Bukono	366,535	1,484.5	8,210.4	39	264	112	9.9	309.1	39	69,456	26,532	1,623.7	6,632.2	1,633.6	6,961.3	149.1	-1,249.1		
Isilungu	152,028	615.7	3,405.4	19	173	73	6.5	201.5	19	45,506	17,383	1,063.8	4,358.4	1,070.3	4,559.9	454.6	1,154.5		
Lwemiyaga	21,127	85.6	473.2	14	128	54	4.8	149.0	14	33,531	12,809	783.8	3,211.5	788.6	3,360.5	703.0	2,887.3		
Mawoxola	122,912	497.8	2,753.2	29	265	112	9.9	306.1	29	69,457	26,533	1,623.7	6,652.5	1,633.6	6,961.6	1,135.8	4,208.4		
Masaka M.	49,885	391.1	2,069.2														-291.1		
Mipi	913,831	3,778.9	21,296.4	100	3,168	1,341	118.2	3,701.7	100	107,371	41,091	2,514.8	10,303.4	2,633.0	14,003.5	-1,143.9	-7,292.9		
Intebe M.	42,763	251.0	1,784.5	2	63	27	2.3	74.5	2	2,151	822	50.3	206.1	52.6	280.6	-198.4	-1,503.9		
Bustro	255,474	1,034.5	5,721.5	8	253	107	9.4	295.3	8	8,606	3,287	201.2	824.1	210.6	1,119.4	-823.9	-4,602.1		
Buhabara	74,062	300.0	1,659.0	8	253	107	9.4	295.3	8	8,606	3,287	201.2	824.1	210.6	1,119.4	-89.4	-539.6		
Gomba	119,550	484.2	2,677.9	66	2,090	886	78.3	2,445.4	66	70,997	27,121	1,659.7	6,799.9	1,738.0	9,245.3	1,253.8	6,567.4		
Kyavondo	264,664	1,071.9	5,928.5	253	253	107	9.4	295.3	16	8,606	3,287	201.2	824.1	210.6	1,119.4	-861.3	-4,809.1		
Nawesika	197,568	637.3	3,525.0	16	253	107	9.4	295.3	16	8,606	3,287	201.2	824.1	210.6	1,119.4	-426.7	-2,305.6		
Murono	824,604	3,339.7	18,471.0	100	5,987	2,538	224.1	7,004.9	100	75,407	28,767	1,760.5	7,272.6	1,984.6	14,237.5	-1,355.1	-4,255.5		
Bhale	85,345	345.6	1,911.7	24	1,437	609	53.8	1,680.3	24	18,074	6,904	422.5	1,731.0	476.3	3,411.8	130.7	1,500.1		
Buikwe	250,311	1,014.6	5,611.4	35	2,095	888	78.4	2,450.9	35	26,557	10,068	616.2	2,524.3	694.6	4,975.2	-320.0	-636.2		
Buvuma	18,482	74.9	414.0	4	239	101	8.9	278.8	4	3,012	1,151	70.4	288.6	79.3	567.4	4.4	153.4		
Mukono	181,697	735.9	4,070.0	20	1,197	508	44.9	1,402.1	20	15,061	5,753	352.1	1,442.4	397.0	2,844.5	-338.9	-1,235.5		
Nshifuma	137,737	557.8	3,085.3	10	599	254	22.4	701.0	10	7,631	2,877	176.0	721.3	198.4	1,422.3	-359.4	-1,663.0		
Nyenjeru	150,832	610.9	3,378.6	7	420	178	15.7	491.3	7	5,272	2,014	123.3	505.0	139.0	946.3	-471.9	-2,383.3		
Total	3,026,862	12,427.0	69,586.5		11,790	4,996	441.0	13,788.9		655,058	250,231	15,313.6	62,739.0	15,754.6	76,527.9	3,327.6	6,941.4		
Kampala	774,241	4722.9	34,980.2																

Appendix 2.5 Processing and Marketing

2.5.1 Processing

Table A2.5.1.1 Number of Milk Collection Centre

District	County	The number of Centre	Cooler Volume (liters)	Sold Milk Volume / 1992 (ton)
Luwero	Bamunanika			
	Buruli	2	12,000	not working
	Katikamu	1	250	146
		1	6,000	not working
	Nakaseke			
Total	4	6,000	146	
Masaka	Bukoto	1	1,400	162
	Bukomansimbi			
	Kalungu			
	Lwemiyaga			
	Mawoggola	1	3,000	58
	Total	2	4,400	162
Mpigi	Busiro			
	Butambala			
	Gomba	1	3,300	145
	Kyadondo	2	5,000	474
	Mawokota			
	Total	3	8,300	619
Mukono	Bbale			
	Buikwe	1	580	not available
	Buvuma			
	Mukono	1	3,000	326
	Nakifuma			
	Nutenjeru	1	2,000	850
	Total	3	5,000	1,176

Table A 2.5.1.2 Number of Livestock Market and Slaughter House, Slab

District	County	Name of Livestock	Livestock market		Slaughterhouse and Slaughter slab					
			The number of market	The number of sold livestock /1992	The number of slaughterhouse	The number of slaughter slab	The number of slaughtered livestock			
Luwero	Bamunika	cattle	1	498						
		Goat		8						
		Sheep		4						
	Buru	cattle	2	3,114						
		Goat		211						
		Sheep		69						
	Katikamu	cattle							3	2,887
		Goat								318
		Sheep								102
	Nakaseke	cattle	3	2,399						
		Goat		71						
		Sheep		29						
Total	cattle	6	5,513	0	3	2,887				
	Goat		0			318				
	Sheep		0			102				
Masaka	Bukoto	cattle	2	4,800	Masaka M. 1	4	5,719			
		Goat		1,320			1,910			
		Sheep					35			
	Bukomansimb	cattle	1	480				1	480	
		Goat		20					240	
		Sheep								
	Kalungu	cattle	1	720				1	768	
		Goat		1,080					960	
		Sheep		15						
	Lwemyaya	cattle	2	5,160						
		Goat		1,825						
		Sheep		20						
	Mawogola	cattle	2	1,440				1	418	
		Goat		360					48	
		Sheep								
	Total	cattle	8	12,600			1	7	7,385	
		Goat		4,605					3,158	
		Sheep		33					35	
Mpigi	Busiro	cattle			1	4	4,632			
		Goat						2,052		
		Sheep						120		
	Butambala	cattle				5	1,848			
		Goat						1,104		
		Sheep						240		
	Gomba	cattle	2	1,634		3	888			
		Goat		435			348			
		Sheep		33			84			
	Kyadondo	cattle				2	6,084			
		Goat						1,128		
		Sheep						192		
	Mawokota	cattle				1	2,196			
		Goat						1,308		
		Sheep								
	Total	cattle	2	1,634		2	15,648			
		Goat		435			5,940			
		Sheep		33			636			
Mukono	Bbale	cattle								
		Goat								
		Sheep								
	Buikwe	cattle								
		Goat								
		Sheep								
	Buvuma	cattle								
		Goat								
		Sheep								
	Mukono	cattle	1	6,850		1	5,476			
		Goat		980			750			
		Sheep					150			
	Nakifuma	cattle								
		Goat								
		Sheep								
	Nutenjeru	cattle				1	4,590			
		Goat						1,732		
		Sheep						721		
Total	cattle	1	6,850		1	10,066				
	Goat		980			2,482				
	Sheep		0			871				

2.5.2 Marketing

Table A2.5.2.1 Present Food Production and Consumption Balance in Luwero

(1) Production and Consumption Balance

Agricultural Production Volume					
Items	Bamunanika	Buruli	Katikamu	Nakaseke	Total
Banana/Tubers	59,653	63,390	57,596	55,192	235,831
Banana	26,461	3,821	20,403	24,934	75,619
Tubers	33,192	59,569	37,193	30,258	160,212
Cereals	4,593	5,871	5,306	5,158	20,928
Pulses	4,221	3,014	4,069	3,770	15,074
Oilseeds	1,011	2,026	949	944	4,930
Vegetables	7,454	1,906	10,148	6,251	25,759
Fruits	8,869	2,584	3,550	7,258	22,261

Unit : ton

Food Consumption Volume					
Items	Bamunanika	Buruli	Katikamu	Nakaseke	Total
Banana/Tubers	44,860	41,706	61,126	38,929	186,621
Banana	30,267	28,139	41,242	26,265	125,913
Tubers	14,593	13,567	19,884	12,664	60,708
Cereals	10,377	9,648	14,140	9,005	43,170
Pulses	3,135	2,914	4,271	2,720	13,040
Oilseeds	1,297	1,206	1,768	1,126	5,397
Vegetables	2,162	2,010	2,946	1,876	8,994
Fruits	3,243	3,015	4,419	2,814	13,491

Unit : ton

Balance of Supply and Consumption Volume					
Items	Bamunanika	Buruli	Katikamu	Nakaseke	Total
Banana/Tubers	14,793	21,684	-3,530	16,263	49,210
Banana	-3,806	-24,318	-20,839	-1,331	-50,294
Tubers	18,599	46,002	17,309	17,594	99,504
Cereals	-5,784	-3,777	-8,834	-3,847	-22,242
Pulses	1,086	100	-202	1,050	2,034
Oilseeds	-286	820	-819	-182	-467
Vegetables	5,292	-104	7,202	4,375	16,765
Fruits	5,626	-431	-869	4,444	8,770

Unit : ton

(2) Food Production (Luwero)

Item	Yield/ha		Bamunamika		Buruli		Kaikamu		Nakasoke		Total	
	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production
Cash crops												
Coffee(Robsta)	0.86	6,966	270	232	7,020	6,037	2,700	2,322	18,090	15,557		
Sugar cane	50.00	2,900	0	0	19	950	0	0	77	3,850		
Tea	1.50	0	0	0	0	0	0	0	0	0		
Cacao	0.55	38	0	0	23	13	0	0	92	51		
Cotton	0.59	49	1,111	655	55	32	139	82	1,388	818		
Vanilla	2.50	0	0	0	0	0	0	0	0	0		
Food crops												
Banana/Tubers												
Banana	4.70	59,653	11,475	63,390	14,816	57,596	15,714	55,192	59,337	235,831		
Tubers												
Cassava	3.94	26,461	813	3,821	4,341	20,403	5,305	24,934	16,089	75,619		
Sweet potatoes	8.50	33,192	10,662	59,569	10,475	37,193	10,409	30,258	43,248	160,212		
Irish potatoes	7.60	3,216	3,827	1,508	6,377	2,513	7,143	2,814	25,510	10,051		
Yams	10.00	28,671	6,746	57,341	3,879	32,972	2,866	24,361	16,864	143,345		
Cereals												
Maize	2.10	1,125	71	540	201	1,528	382	2,903	802	6,096		
Finger millet	2.00	180	18	180	18	180	18	180	72	720		
Sorghum	1.80	4,593	2,850	5,871	2,587	5,306	2,526	5,158	10,210	20,928		
Pulses												
Beans	1.60	3,662	2,295	4,820	2,074	4,355	1,964	4,124	8,077	16,961		
Field peas	0.50	258	258	516	139	278	112	224	638	1,276		
Cow peas	0.80	673	297	535	374	673	450	810	1,495	2,691		
Pigeon peas	0.50	4,221	1,884	3,014	2,543	4,069	2,356	3,770	9,421	15,074		
Oilseeds												
Groundnuts	1.10	4,221	1,884	3,014	2,543	4,069	2,356	3,770	9,421	15,074		
Simsim	0.70	0	0	0	0	0	0	0	0	0		
Soya beans	0.70	0	0	0	0	0	0	0	0	0		
Sunflowers	1.50	0	0	0	0	0	0	0	0	0		
Vegetables												
Tomatoes	6.25	1,011	1,939	2,026	990	949	1,033	944	5,052	4,930		
Onions	8.00	634	1,644	1,808	582	640	514	565	3,316	3,647		
Cabbages	2.50	14	67	47	20	14	26	18	133	93		
Greens	10.00	331	215	151	359	251	473	331	1,520	1,064		
Fruits												
Pineapples	27.00	32	13	20	29	44	20	30	83	126		
Passionfruits	7.00	7,454	307	1,906	2,009	10,148	1,258	6,251	4,929	25,759		
Avocado	10.00	2,331	85	531	764	4,775	475	2,969	1,697	10,606		
J.fruits/Paw-paw/Mango	10.00	400	10	80	85	680	54	432	199	1,592		
Others(Fruits)	6.00	1,533	110	275	921	2,303	592	1,480	2,236	5,591		
		3,190	102	1,020	239	2,390	137	1,370	797	7,970		
		8,869	176	2,584	197	3,550	339	7,258	1,106	22,261		
		305	68	1,836	108	2,916	244	6,588	725	19,575		
		84	84	588	84	588	84	588	336	2,352		
		2	2	20	2	20	2	20	8	80		
		2	2	20	2	20	2	20	8	80		
		1	1	120	1	120	1	120	42	174		

(3) Food Consumption (Luwero)

Item	Consump. /Capita		Bamunanika		Buruli		Kaukamu		Nakasoke		Total	
	Consump. /Capita	ton	Popula.	Consump. ton	Popula.	Consump. ton	Popula.	Consump. ton	Popula.	Consump. ton	Popula.	Consump. ton
Cash crops												
Coffee(Robsta)												
Sugar cane												
Tea												
Cacao												
Cotton												
Vanilla												
Food crops												
Banana/Tubers												
Banana	0.280		108,098	44,860	100,497	41,706	147,292	61,126	93,804	38,929	449,691	186,621
Tubers	0.135		108,098	14,593	100,497	13,567	147,292	41,242	93,804	26,265	449,691	125,913
Cassava								19,884	93,804	12,664	449,691	60,708
Sweet potatoes												
Irish potatoes												
Yams												
Cereals	0.096		108,098	10,377	100,497	9,648	147,292	14,140	93,804	9,005	449,691	43,170
Maize												
Finger millet												
Sorghum	0.029		108,098	3,135	100,497	2,914	147,292	4,271	93,804	2,720	449,691	13,040
Pulses												
Beans												
Ficid peas												
Cow peas												
Pigeon peas												
Oilseeds	0.012		108,098	1,297	100,497	1,206	147,292	1,768	93,804	1,126	449,691	5,397
Groundnuts												
Simsim												
Soya beans												
Sunflowers												
Vegetables	0.020		108,098	2,162	100,497	2,010	147,292	2,946	93,804	1,876	449,691	8,994
Tomatoes												
Onions												
Cabbages												
Greens												
Fruits	0.030		108,098	3,243	100,497	3,015	147,292	4,419	93,804	2,814	449,691	13,491
Pincapples												
Passionfruits												
Avocado												
J.fruits/Paw-paw/Mango												
Others(fruits)												

Table A2.5.2.2 Present Food Production and Consumption Balance in Masaka

(1) Production and Consumption Balance

Agricultural Production Volume							Unit : ton
Items	Bukoto	Bukomansimbi	Kalutanga	Lwemiyaga	Mawagola	Total	
Banana/Tubers	223,081	145,801	110,417	26,172	113,394	618,865	
Banana	182,274	121,840	78,638	19,510	95,495	497,757	
Tubers	40,807	23,961	31,779	6,662	17,899	121,108	
Cereals	4,636	3,798	4,185	2,187	3,009	17,815	
Pulses	4,962	4,073	3,773	764	2,536	16,108	
Oilseeds	4,199	1,720	1,325	527	1,033	8,804	
Vegetables	16,510	8,839	8,362	1,873	3,167	38,751	
Fruits	31,172	17,260	8,260	1,556	3,624	61,872	

Food Consumption Volume							Unit : ton
Items	Bukoto	Bukomansimbi	Kalutanga	Lwemiyaga	Mawagola	Total	
Banana/Tubers	172,690	52,518	63,092	8,768	51,008	348,076	
Banana	116,514	35,434	42,568	5,916	34,415	234,847	
Tubers	56,176	17,084	20,524	2,852	16,593	113,229	
Cereals	39,948	12,149	14,595	2,028	11,800	80,520	
Pulses	12,067	3,670	4,409	613	3,564	24,323	
Oilseeds	4,993	1,519	1,824	254	1,475	10,065	
Vegetables	8,322	2,531	3,041	423	2,458	16,775	
Fruits	12,484	3,796	4,561	634	3,687	25,162	

Balance of Supply and Consumption Volume							Unit : ton
Items	Bukoto	Bukomansimbi	Kalutanga	Lwemiyaga	Mawagola	Total	
Banana/Tubers	50,391	93,283	47,325	17,404	62,386	270,789	
Banana	65,760	86,406	36,070	13,594	61,080	262,910	
Tubers	-15,369	6,877	11,255	3,810	1,306	7,879	
Cereals	-35,312	-8,351	-10,410	159	-8,791	-62,705	
Pulses	-7,105	403	-636	151	-1,028	-8,215	
Oilseeds	-794	201	-499	273	-442	-1,261	
Vegetables	8,188	6,308	5,321	1,450	709	21,976	
Fruits	18,688	13,464	3,699	922	-63	36,710	

(2) Food Production (Masaka)

Item	Yield/ha		Bukoto		Bukomansibi		Kalutanga		Lwemyiyya		Mawagola		Total	
	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production
Cash crops														
Coffec(Robsta)	14,135	12,156	5,302	4,560	2,749	2,364	117	101	4,498	3,868	26,801	23,049		
Suger cane	50.00	4,550	69	3,450	62	3,100	41	2,050	50	2,500	313	15,650		
Tea	1.50	379	108	162	149	224	0	0	0	0	636	955		
Cacao	0.55	0	0	0	0	0	0	0	0	0	0	0		
Cotton	0.59	7	4	0	3	2	7	4	5	3	22	13		
Vanilla	2.50	0	0	0	0	0	0	0	0	0	0	0		
Food crops														
Banana/Tubers														
Banana	41,895	223,081	23,498	145,801	18,217	110,417	5,068	26,172	20,853	113,394	109,531	618,865		
Tubers	27,205	182,274	18,185	121,840	11,737	78,638	2,912	19,510	14,253	95,495	74,292	497,757		
Cassava	14,690	40,807	5,313	23,961	6,480	31,779	2,156	6,662	6,600	17,899	35,239	121,108		
Sweet potatios	11,377	7,645	3,130	2,103	3,543	2,381	1,602	1,077	5,161	3,468	24,813	16,674		
Irish potatios	3,260	32,600	2,137	21,370	2,891	28,910	479	4,790	1,370	13,700	10,137	101,370		
Yams	53	562	46	488	46	488	75	795	69	731	289	3,064		
Cereals														
Maize	3,135	4,636	2,560	3,798	2,842	4,185	1,716	2,187	2,313	3,009	12,586	17,815		
Finger millet	1,345	1,480	1,211	1,332	1,666	1,833	609	670	1,281	1,409	6,112	6,724		
Sorghum	1,10	568	258	284	0	0	774	851	516	568	2,064	2,271		
Pulses	2,00	2,588	1,091	2,182	1,176	2,352	333	666	516	1,032	4,410	8,820		
Beans	4,136	4,962	3,419	4,073	3,150	3,773	639	764	2,117	2,536	13,481	16,108		
Field peas	4,118	4,942	3,376	4,051	3,139	3,767	633	760	2,110	2,532	13,376	16,052		
Cow peas	35	18	39	20	10	5	5	3	6	3	95	49		
Pigeon peas	3	2	4	2	1	1	1	1	1	1	10	7		
Oilseeds	0.50	0	0	0	0	0	0	0	0	0	0	0		
Groundnuts	3,088	4,199	1,292	1,720	1,026	1,325	448	527	818	1,033	6,672	8,804		
Simsim	2,676	3,746	998	1,397	656	918	112	157	443	620	4,885	6,838		
Soya beans	1.10	3	2	2	0	0	5	6	5	6	15	17		
Sunflowers	1.10	409	292	321	370	407	331	364	370	407	1,772	1,949		
Vegetables	1.20	0	0	0	0	0	0	0	0	0	0	0		
Tomatoes	3,939	16,510	1,938	8,839	2,143	8,362	449	1,873	749	3,167	9,218	38,751		
Onions	1,517	9,861	809	5,259	698	4,537	152	988	263	1,710	3,439	22,355		
Cabbages	6.50	0	0	0	0	0	0	0	0	0	0	0		
Greens	4.30	0	0	0	0	0	0	0	0	0	0	0		
Fruits	3.90	950	696	2,714	492	1,919	153	597	255	995	2,546	9,930		
Pineapples	2.00	1,472	433	866	953	1,906	144	288	231	462	3,233	6,466		
Passionfruits	868	31,172	487	17,260	225	8,260	44	1,556	107	3,624	1,731	61,872		
Avocado	40.00	30,480	421	16,840	203	8,120	38	1,520	87	3,480	1,511	60,440		
J.fruits/Paw-paw/Mango	6.00	91	59	354	19	114	5	30	13	78	187	1,122		
Others(fruits)	10.00	7	3	30	1	10	0	0	3	30	14	140		
	10.00	7	3	30	1	10	0	0	3	30	14	140		
	6.00	1	1	6	1	6	1	6	1	6	5	30		

(3) Food Consumption (Masaka)

Item	Consump./Capita		Bukoto		Bukomansibi		Kalulanga		Lwemiyaga		Mawagola		Total	
	Consume	Popula	Consume	Popula	Consume	Popula	Consume	Popula	Consume	Popula	Consume	Popula	Consume	Popula
Cash crops														
Coffee(Robsta)														
Sugr cane														
Tea														
Cacao														
Cotton														
Vanilla														
Food crops														
Banana/Tubers			172,690		52,518		63,092		8,768		51,008		348,076	
Banana	0.280	416,120	116,514	126,549	35,434	152,028	42,568	21,127	5,916	122,912	34,415	838,736	234,847	
Tubers	0.135	416,120	56,176	126,549	17,084	152,028	20,524	21,127	2,852	122,912	16,593	838,736	113,229	
Cassava														
Sweet potatos														
Irish potatos														
Yams														
Cereals	0.096	416,120	39,948	126,549	12,149	152,028	14,595	21,127	2,028	122,912	11,800	838,736	80,320	
Maize														
Finger millet														
Sorghum														
Pulses	0.029	416,120	12,067	126,549	3,670	152,028	4,409	21,127	613	122,912	3,564	838,736	24,323	
Beans														
Field peas														
Cow peas														
Pigeon peas														
Oilseeds	0.012	416,120	4,993	126,549	1,519	152,028	1,824	21,127	254	122,912	1,475	838,736	10,065	
Groundnuts														
Simsim														
Soya beans														
Sunflowers														
Vegetables	0.020	416,120	8,322	126,549	2,531	152,028	3,041	21,127	423	122,912	2,458	838,736	16,775	
Tomatoes														
Onions														
Cabbages														
Greens														
Fruits	0.030	416,120	12,484	126,549	3,796	152,028	4,561	21,127	634	122,912	3,687	838,736	25,162	
Pineapples														
Passionfruits														
Avocado														
J.fruits/Paw-paw/Mango														
Others(fruits)														

Table A2.5.2.3 Present Food Production and Consumption Balance in Mpigi

(1) Production and Consumption Balance

Agricultural Production Volume							Unit : ton
Items	Busiro	Butambara	Gomba	Kyadondo	Mawokota	Total	
Banana/Tubers	86,759	38,290	46,861	82,761	85,097	339,768	
Banana	51,500	16,968	19,819	49,664	45,966	183,917	
Tubers	35,259	21,322	27,042	33,097	39,131	155,851	
Cereals	6,357	2,280	2,789	5,695	5,968	23,089	
Pulses	7,347	5,455	6,790	7,341	8,045	34,978	
Oilseeds	1,784	1,877	1,632	1,433	1,778	8,504	
Vegetables	13,908	10,069	7,821	11,738	12,293	55,829	
Fruits	3,181	1,511	996	2,496	2,806	10,990	

Food Consumption Volume							Unit : ton
Items	Busiro	Butambara	Gomba	Kyadondo	Mawokota	Total	
Banana/Tubers	123,747	30,735	49,613	109,836	65,308	379,239	
Banana	83,492	20,737	33,474	74,106	44,063	255,872	
Tubers	40,255	9,998	16,139	35,730	21,245	123,367	
Cereals	28,626	7,110	11,477	25,408	15,107	87,728	
Pulses	8,647	2,148	3,467	7,675	4,564	26,501	
Oilseeds	3,578	889	1,435	3,176	1,888	10,966	
Vegetables	5,964	1,481	2,391	5,293	3,147	18,276	
Fruits	8,946	2,222	3,587	7,940	4,721	27,416	

Balance of Supply and Consumption Volume							Unit : ton
Items	Busiro	Butambara	Gomba	Kyadondo	Mawokota	Total	
Banana/Tubers	-36,988	7,555	-2,752	-27,075	19,789	-39,471	
Banana	-31,992	-3,769	-13,655	-24,442	1,903	-71,955	
Tubers	-4,996	11,324	10,903	-2,633	17,886	32,484	
Cereals	-22,269	-4,830	-8,688	-19,713	-9,139	-64,639	
Pulses	-1,300	3,307	3,323	-334	3,481	8,477	
Oilseeds	-1,794	988	197	-1,743	-110	-2,462	
Vegetables	7,944	8,588	5,430	6,445	9,146	37,553	
Fruits	-5,765	-711	-2,591	-5,444	-1,915	-16,426	

(2) Food Production (Mpigi)

Item	Yield/ha		Busiro		Buambara		Gomba		Kyadondo		Mawekola		Total	
	ton	ha	ton	ha	ton	ha	ton	ha	ton	ha	ton	ha	ton	ha
Cash crops														
Coffee(Robbia)	0.86	4,815	86,759	8,957	38,290	11,248	46,861	21,137	82,761	22,182	85,097	86,778	339,768	
Sugar cane	50.00	1,068	53,400	1,637	16,968	3,886	19,819	9,738	49,664	9,013	45,966	36,062	183,917	
Tea	1.50	42	63	42	53,400	801	27,042	11,399	33,097	13,169	39,131	50,716	155,851	
Cacao	0.55	113	62	0	63	42	1,388	6,001	3,025	6,751	3,403	25,010	12,607	
Cotton	0.59	0	0	0	0	0	24,712	5,240	28,820	6,236	34,298	24,946	137,204	
Vanilla	2.50	0	0	0	0	0	84	126	932	150	1,110	600	4,440	
Food crops														
Banana/Tubers														
Banana	5.10	23,254	86,759	8,957	38,290	11,248	46,861	21,137	82,761	22,182	85,097	86,778	339,768	
Tubers														
Cassava	5.04	7,505	3,783	2,000	1,008	2,753	1,388	6,001	3,025	6,751	3,403	25,010	12,607	
Sweet potatoes	5.50	5,487	30,179	3,490	19,195	4,493	24,712	5,240	28,820	6,236	34,298	24,946	137,204	
Irish potatoes	7.40	132	977	108	799	84	622	126	932	150	1,110	600	4,440	
Yams	10.00	32	320	32	320	32	320	32	320	32	320	160	1,600	
Cereals														
Maize	1.00	6,217	6,357	2,166	2,280	2,700	2,789	5,561	5,695	5,810	5,968	22,454	23,089	
Finger millet	0.50	6,017	6,017	2,003	2,573	2,573	2,573	5,370	5,370	5,884	5,584	21,547	21,547	
Sorghum	1.70	200	340	163	277	127	216	191	325	226	384	907	1,542	
Pulses														
Beans	1.10	6,682	7,347	4,962	5,455	6,176	6,790	6,676	7,341	7,317	8,045	31,813	34,978	
Field peas	0.50	6,676	7,344	4,956	5,452	6,170	6,787	6,672	7,339	7,311	8,042	31,785	34,964	
Cow peas	0.50	6	3	6	3	6	3	4	2	6	3	28	14	
Pigeon peas	0.50	0	0	0	0	0	0	0	0	0	0	0	0	
Oilseeds														
Groundnuts	1.30	1,109	1,784	1,155	1,877	997	1,632	914	1,433	1,121	1,778	5,296	8,504	
Simsim	0.50	424	551	404	525	303	394	424	551	464	603	2,019	2,624	
Soya beans	1.80	685	1,233	751	1,352	685	1,233	490	882	651	1,172	3,262	5,872	
Sunflowers	1.00	0	0	0	0	0	0	0	0	0	0	0	0	
Vegetables														
Tomatoes	7.00	1,964	13,908	1,421	10,069	1,104	7,821	1,657	11,738	1,735	12,293	7,881	55,829	
Onions	8.40	1,709	11,963	1,231	8,617	958	6,706	1,437	10,059	1,504	10,528	6,839	47,873	
Cabbages	7.50	202	1,515	145	1,088	113	848	170	1,275	178	1,335	808	6,061	
Greens	8.00	39	312	34	272	26	208	39	312	39	312	177	1,416	
Fruits														
Pineapples	40.00	103	3,181	52	1,511	31	996	69	2,496	78	2,806	333	10,990	
Passionfruits	15.00	67	2,680	30	1,200	22	880	60	2,400	67	2,680	246	9,840	
Avocado	10.00	29	435	19	285	6	90	2	30	4	60	60	900	
J.fruits/Paw-paw/Mango	10.00	3	30	1	10	1	10	3	30	3	30	11	110	
Others(fruits)	6.00	3	30	1	10	1	10	3	30	3	30	11	110	
		1	6	1	6	1	6	1	6	1	6	5	30	

(3) Food Consumption (Mpigi)

Item	Consump./Capita ton	Busiro		Butambara		Gomba		Kyadondo		Mawokola		Total	
		Popula.	Consump. ton	Popula.	Consump. ton	Popula.	Consump. ton	Popula.	Consump. ton	Popula.	Consump. ton	Popula.	Consump. ton
Cash crops													
Coffee(Robusta)													
Sugar cane													
Tea													
Cacao													
Cotton													
Vanilla													
Food crops													
Banana/Tubors													
Banana	0.280	298,187	123,747	74,062	30,735	119,550	49,613	264,664	109,836	157,368	65,308	913,831	379,239
Tubors	0.135	298,187	40,255	74,062	9,998	119,550	16,139	264,664	35,730	157,368	21,245	913,831	123,367
Cassava													
Sweat potatos													
Irish potatos													
Yams													
Cereals	0.096	298,187	28,626	74,062	7,110	119,550	11,477	264,664	25,408	157,368	15,107	913,831	87,728
Maize													
Finger millet													
Sorghum	0.029	298,187	8,647	74,062	2,148	119,550	3,467	264,664	7,675	157,368	4,564	913,831	26,501
Pulses													
Beans													
Field peas													
Cow peas													
Pigeon peas													
Oilseeds	0.012	298,187	3,578	74,062	889	119,550	1,435	264,664	3,176	157,368	1,888	913,831	10,966
Groundnuts													
Simsim													
Soya beans													
Sunflowers													
Vegetables	0.020	298,187	5,964	74,062	1,481	119,550	2,391	264,664	5,293	157,368	3,147	913,831	18,276
Tomatoes													
Onions													
Cabbages													
Greens													
Fruits	0.030	298,187	8,946	74,062	2,222	119,550	3,587	264,664	7,940	157,368	4,721	913,831	27,416
Pineapples													
Passionfruits													
Avocado													
J.fruits/Paw-paw/Mango													
Others(fruits)													

Table A2.5.2.4 Present Food Production and Consumption Balance in Mukono

(1) Production and Consumption Balance

Agricultural Production Volume							Unit : ton
Items	Bbale	Buikuwe	Buvuma	Mukono	Nakifuma	Nutenjeru	Total
Banana/Tubers	19,491	61,780	21,881	115,696	49,237	64,969	333,054
Banana	6,810	50,301	21,673	102,665	33,355	44,898	259,702
Tubers	12,681	11,479	208	13,031	15,882	20,071	73,352
Cereals	1,221	977	0	979	1,420	2,784	7,381
Pulses	2,235	1,894	3,164	1,844	3,002	3,459	15,598
Oilseeds	412	351	83	435	450	866	2,597
Vegetables	79	1,276	0	2,059	1,840	1,491	6,745
Fruits	26	3,306	6	6,896	2,136	12,856	25,226

Food Consumption Volume							Unit : ton
Items	Bbale	Buikuwe	Buvuma	Mukono	Nakifuma	Nutenjeru	Total
Banana/Tubers	35,419	103,962	7,670	75,404	57,160	62,595	342,210
Banana	23,897	70,143	5,175	50,875	38,566	42,233	230,889
Tubers	11,522	33,819	2,495	24,529	18,594	20,362	111,321
Cereals	8,193	24,049	1,774	17,443	13,223	14,480	79,162
Pulses	2,475	7,265	536	5,269	3,994	4,374	23,913
Oilseeds	1,024	3,006	222	2,180	1,653	1,810	9,895
Vegetables	1,707	5,010	370	3,634	2,755	3,017	16,493
Fruits	2,560	7,515	554	5,451	4,132	4,525	24,737

Balance of Supply and Consumption Volume							Unit : ton
Items	Bbale	Buikuwe	Buvuma	Mukono	Nakifuma	Nutenjeru	Total
Banana/Tubers	-15,928	-42,182	14,211	40,292	-7,923	2,374	-9,156
Banana	-17,087	-19,842	16,498	51,790	-5,211	2,665	28,813
Tubers	1,159	-22,340	-2,287	-11,498	-2,712	-291	-37,969
Cereals	-6,972	-23,072	-1,774	-16,464	-11,803	-11,696	-71,781
Pulses	-240	-5,371	2,628	-3,425	-992	-915	-8,315
Oilseeds	-612	-2,655	-139	-1,745	-1,203	-944	-7,298
Vegetables	-1,628	-3,734	-370	-1,575	-915	-1,526	-9,748
Fruits	-2,534	-4,209	-548	1,445	-1,996	8,331	489

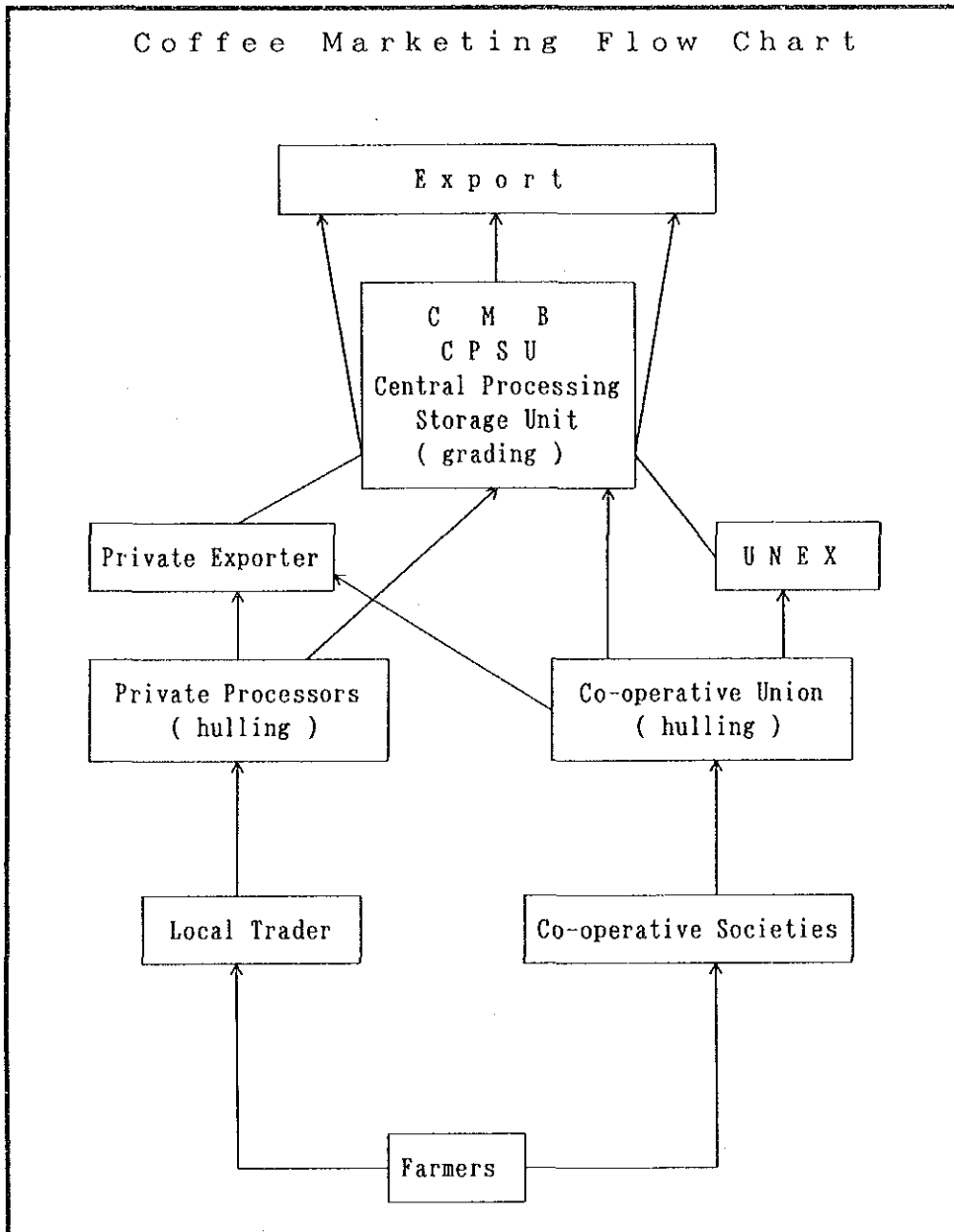
(2) Food Production (Mukono)

Item	Yield/ha		Bhalc		Bukwac		Buvuma		Mukono		Nakituma		Nichenjeru		Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	ha	ton	ha	ton	ha	ton	ha	ton	ha	ton	ha	ton	ha	ton	ha	ton																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Cash crops																	Coffee(Robsta)	4,401	3,785	7,076	6,085	0	0	18,462	15,877	0	0	6,878	7,998	17,648	15,177	55,585	47,802	Suger cane	0	0	34,119	1,705,950	0	0	1,868	93,400	0	0	1,807	90,350	354	17,700	38,148	1,907,400	Tea	0	0	691	1,037	0	0	607	911	0	0	1,880	0	0	0	2,551	3,828	Cacao	68	37	1,448	796	483	266	290	160	0	0	1,487	2,703	579	318	5,571	3,064	Colton	93	55	0	0	0	0	0	0	0	0	21	0	76	45	190	112	Vanilla	0	0	2	5	0	0	17	43	0	0	1	0	2	5	22	56	Food crops																	Banana/Tubers	4,024	19,491	9,814	61,780	3,474	21,881	21,735	115,696	0	0	13,602	49,237	17,082	64,969	69,731	333,054	Banana	987	6,810	7,290	50,301	3,141	21,673	14,879	102,665	0	0	4,834	33,355	6,507	44,898	37,638	259,702	Tubers	3,037	12,681	2,524	11,479	333	208	6,856	13,031	0	0	8,768	15,882	10,575	20,071	32,093	73,352	Cassava	1,088	594	738	403	329	180	5,210	2,845	0	0	6,802	3,714	8,047	4,394	22,214	12,130	Sweet potatoes	1,945	12,059	1,782	11,048	0	0	1,632	10,118	0	0	1,951	12,096	2,524	15,649	9,834	60,970	Irish potatoes	4	0	0	0	0	0	10	40	0	0	11	44	0	0	21	84	Yams	4	28	4	28	4	28	4	28	0	0	4	28	4	28	24	168	Cereals	1,516	1,221	911	977	0	0	872	979	0	0	1,254	1,420	2,830	2,784	7,381	7,381	Maize	723	723	685	685	0	0	686	686	0	0	1,001	1,001	2,247	2,247	5,342	5,342	Finger millet	774	464	96	58	0	0	35	21	0	0	31	19	427	256	1,363	818	Sorghum	19	34	130	234	0	0	151	272	0	0	222	400	156	281	678	1,221	Pulses	1,495	2,235	1,272	1,894	2,109	3,164	1,237	1,844	0	0	2,008	3,002	2,313	3,459	10,434	15,598	Beans	1,488	2,232	1,258	1,887	2,109	3,164	1,225	1,838	0	0	1,998	2,997	2,302	3,453	10,380	15,571	Field peas	7	3	7	3	0	0	7	3	0	0	7	3	4	2	32	14	Cow peas	0	0	7	4	0	0	5	3	0	0	3	2	7	4	22	13	Pigeon peas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Oilseeds	345	412	298	351	83	83	365	435	0	0	373	450	701	866	2,165	2,597	Groundnuts	131	157	197	236	0	0	259	311	0	0	246	295	476	571	1,309	1,570	Simsim	58	41	0	0	0	0	0	0	0	0	6	4	40	28	104	73	Soya beans	73	131	18	32	83	83	23	41	0	0	38	68	102	184	254	456	Sunflowers	83	83	83	83	83	83	83	83	0	0	83	83	83	83	498	498	Vegetables	11	79	169	1,276	0	0	262	2,059	0	0	234	1,840	192	1,491	868	6,745	Tomatoes	1	9	100	850	0	0	178	1,513	0	0	163	1,386	122	1,037	564	4,795	Onions	1	10	2	20	0	0	7	70	0	0	6	60	4	40	20	200	Cabbages	6	36	65	390	0	0	70	420	0	0	63	378	57	342	261	1,566	Greens	3	24	2	16	0	0	7	56	0	0	2	16	9	72	23	184	Fruits	3	26	127	3,306	1	6	262	6,896	0	0	84	2,136	450	12,856	927	25,226	Pineapples	0	0	102	3,060	0	0	214	6,420	0	0	65	1,950	418	12,540	799	23,970	Passionfruits	0	0	12	120	0	0	41	410	0	0	10	100	23	230	86	860	Avocado	1	10	6	60	0	0	3	30	0	0	4	40	4	40	18	180	J.fruits/Paw-paw/Mango	1	10	6	60	0	0	3	30	0	0	4	40	4	40	18	180	Others (fruits)	1	6	1	6	1	6	1	6	0	0	1	6	1	6	6	36
Coffee(Robsta)	4,401	3,785	7,076	6,085	0	0	18,462	15,877	0	0	6,878	7,998	17,648	15,177	55,585	47,802																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Suger cane	0	0	34,119	1,705,950	0	0	1,868	93,400	0	0	1,807	90,350	354	17,700	38,148	1,907,400																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Tea	0	0	691	1,037	0	0	607	911	0	0	1,880	0	0	0	2,551	3,828																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Cacao	68	37	1,448	796	483	266	290	160	0	0	1,487	2,703	579	318	5,571	3,064																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Colton	93	55	0	0	0	0	0	0	0	0	21	0	76	45	190	112																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Vanilla	0	0	2	5	0	0	17	43	0	0	1	0	2	5	22	56																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Food crops																	Banana/Tubers	4,024	19,491	9,814	61,780	3,474	21,881	21,735	115,696	0	0	13,602	49,237	17,082	64,969	69,731	333,054	Banana	987	6,810	7,290	50,301	3,141	21,673	14,879	102,665	0	0	4,834	33,355	6,507	44,898	37,638	259,702	Tubers	3,037	12,681	2,524	11,479	333	208	6,856	13,031	0	0	8,768	15,882	10,575	20,071	32,093	73,352	Cassava	1,088	594	738	403	329	180	5,210	2,845	0	0	6,802	3,714	8,047	4,394	22,214	12,130	Sweet potatoes	1,945	12,059	1,782	11,048	0	0	1,632	10,118	0	0	1,951	12,096	2,524	15,649	9,834	60,970	Irish potatoes	4	0	0	0	0	0	10	40	0	0	11	44	0	0	21	84	Yams	4	28	4	28	4	28	4	28	0	0	4	28	4	28	24	168	Cereals	1,516	1,221	911	977	0	0	872	979	0	0	1,254	1,420	2,830	2,784	7,381	7,381	Maize	723	723	685	685	0	0	686	686	0	0	1,001	1,001	2,247	2,247	5,342	5,342	Finger millet	774	464	96	58	0	0	35	21	0	0	31	19	427	256	1,363	818	Sorghum	19	34	130	234	0	0	151	272	0	0	222	400	156	281	678	1,221	Pulses	1,495	2,235	1,272	1,894	2,109	3,164	1,237	1,844	0	0	2,008	3,002	2,313	3,459	10,434	15,598	Beans	1,488	2,232	1,258	1,887	2,109	3,164	1,225	1,838	0	0	1,998	2,997	2,302	3,453	10,380	15,571	Field peas	7	3	7	3	0	0	7	3	0	0	7	3	4	2	32	14	Cow peas	0	0	7	4	0	0	5	3	0	0	3	2	7	4	22	13	Pigeon peas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Oilseeds	345	412	298	351	83	83	365	435	0	0	373	450	701	866	2,165	2,597	Groundnuts	131	157	197	236	0	0	259	311	0	0	246	295	476	571	1,309	1,570	Simsim	58	41	0	0	0	0	0	0	0	0	6	4	40	28	104	73	Soya beans	73	131	18	32	83	83	23	41	0	0	38	68	102	184	254	456	Sunflowers	83	83	83	83	83	83	83	83	0	0	83	83	83	83	498	498	Vegetables	11	79	169	1,276	0	0	262	2,059	0	0	234	1,840	192	1,491	868	6,745	Tomatoes	1	9	100	850	0	0	178	1,513	0	0	163	1,386	122	1,037	564	4,795	Onions	1	10	2	20	0	0	7	70	0	0	6	60	4	40	20	200	Cabbages	6	36	65	390	0	0	70	420	0	0	63	378	57	342	261	1,566	Greens	3	24	2	16	0	0	7	56	0	0	2	16	9	72	23	184	Fruits	3	26	127	3,306	1	6	262	6,896	0	0	84	2,136	450	12,856	927	25,226	Pineapples	0	0	102	3,060	0	0	214	6,420	0	0	65	1,950	418	12,540	799	23,970	Passionfruits	0	0	12	120	0	0	41	410	0	0	10	100	23	230	86	860	Avocado	1	10	6	60	0	0	3	30	0	0	4	40	4	40	18	180	J.fruits/Paw-paw/Mango	1	10	6	60	0	0	3	30	0	0	4	40	4	40	18	180	Others (fruits)	1	6	1	6	1	6	1	6	0	0	1	6	1	6	6	36																																																																																																																							
Banana/Tubers	4,024	19,491	9,814	61,780	3,474	21,881	21,735	115,696	0	0	13,602	49,237	17,082	64,969	69,731	333,054																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Banana	987	6,810	7,290	50,301	3,141	21,673	14,879	102,665	0	0	4,834	33,355	6,507	44,898	37,638	259,702																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Tubers	3,037	12,681	2,524	11,479	333	208	6,856	13,031	0	0	8,768	15,882	10,575	20,071	32,093	73,352																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Cassava	1,088	594	738	403	329	180	5,210	2,845	0	0	6,802	3,714	8,047	4,394	22,214	12,130																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Sweet potatoes	1,945	12,059	1,782	11,048	0	0	1,632	10,118	0	0	1,951	12,096	2,524	15,649	9,834	60,970																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Irish potatoes	4	0	0	0	0	0	10	40	0	0	11	44	0	0	21	84																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Yams	4	28	4	28	4	28	4	28	0	0	4	28	4	28	24	168																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Cereals	1,516	1,221	911	977	0	0	872	979	0	0	1,254	1,420	2,830	2,784	7,381	7,381																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Maize	723	723	685	685	0	0	686	686	0	0	1,001	1,001	2,247	2,247	5,342	5,342																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Finger millet	774	464	96	58	0	0	35	21	0	0	31	19	427	256	1,363	818																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Sorghum	19	34	130	234	0	0	151	272	0	0	222	400	156	281	678	1,221																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Pulses	1,495	2,235	1,272	1,894	2,109	3,164	1,237	1,844	0	0	2,008	3,002	2,313	3,459	10,434	15,598																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Beans	1,488	2,232	1,258	1,887	2,109	3,164	1,225	1,838	0	0	1,998	2,997	2,302	3,453	10,380	15,571																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Field peas	7	3	7	3	0	0	7	3	0	0	7	3	4	2	32	14																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Cow peas	0	0	7	4	0	0	5	3	0	0	3	2	7	4	22	13																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Pigeon peas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Oilseeds	345	412	298	351	83	83	365	435	0	0	373	450	701	866	2,165	2,597																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Groundnuts	131	157	197	236	0	0	259	311	0	0	246	295	476	571	1,309	1,570																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Simsim	58	41	0	0	0	0	0	0	0	0	6	4	40	28	104	73																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Soya beans	73	131	18	32	83	83	23	41	0	0	38	68	102	184	254	456																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Sunflowers	83	83	83	83	83	83	83	83	0	0	83	83	83	83	498	498																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Vegetables	11	79	169	1,276	0	0	262	2,059	0	0	234	1,840	192	1,491	868	6,745																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Tomatoes	1	9	100	850	0	0	178	1,513	0	0	163	1,386	122	1,037	564	4,795																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Onions	1	10	2	20	0	0	7	70	0	0	6	60	4	40	20	200																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Cabbages	6	36	65	390	0	0	70	420	0	0	63	378	57	342	261	1,566																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Greens	3	24	2	16	0	0	7	56	0	0	2	16	9	72	23	184																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Fruits	3	26	127	3,306	1	6	262	6,896	0	0	84	2,136	450	12,856	927	25,226																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Pineapples	0	0	102	3,060	0	0	214	6,420	0	0	65	1,950	418	12,540	799	23,970																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Passionfruits	0	0	12	120	0	0	41	410	0	0	10	100	23	230	86	860																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Avocado	1	10	6	60	0	0	3	30	0	0	4	40	4	40	18	180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
J.fruits/Paw-paw/Mango	1	10	6	60	0	0	3	30	0	0	4	40	4	40	18	180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Others (fruits)	1	6	1	6	1	6	1	6	0	0	1	6	1	6	6	36																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

(3) Food Consumption (Mukono)

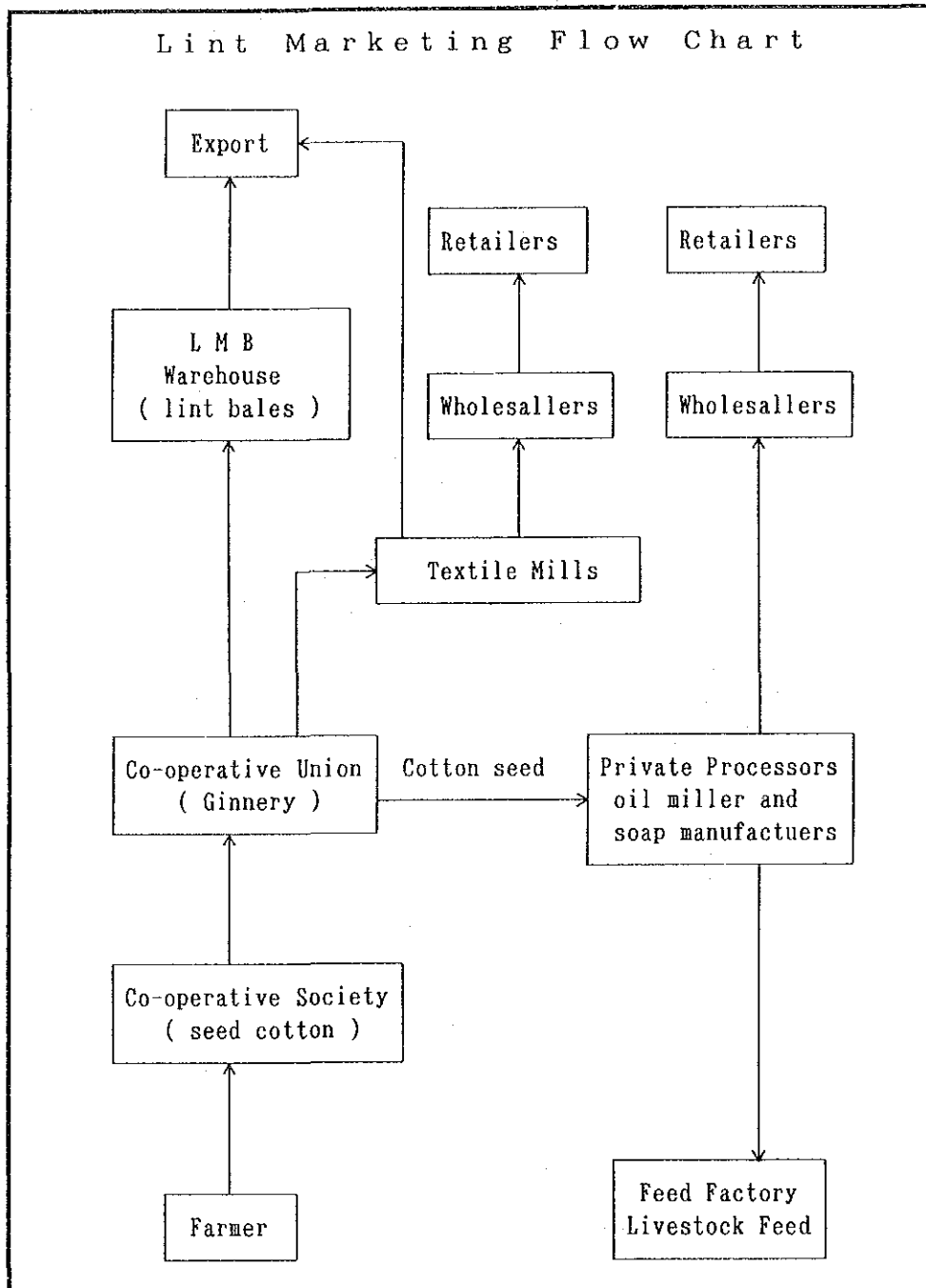
Item	Consume		Bhalc		Buikwc		Buvuma		Mukono		Nakiluma		Ntenjeru		Total	
	Consume	/Capita	Popula.	Consume.	Popula.	Consume.	Popula.	Consume.	Popula.	Consume.	Popula.	Consume.	Popula.	Consume.	Popula.	Consume.
	ton	ton		ton		ton		ton		ton		ton		ton		ton
Cash crops																
Coffee(Robsta)																
Suger canc																
Tca																
Cacao																
Cotton																
Vanilla																
Food crops																
Banana/Tubers																
Banana	0.280		85,345	35,419	250,511	103,962	18,482	7,670	181,695	75,404	137,737	57,160	150,832	62,595	824,602	342,210
Tubers	0.135		85,345	23,897	250,511	70,143	18,482	5,175	181,695	50,875	137,737	38,566	150,832	42,233	824,602	230,889
Cassava				11,522	250,511	33,819	18,482	2,495	181,695	24,529	137,737	18,594	150,832	20,362	824,602	111,321
Sweat potatos																
Irish potatos																
Yams																
Cereals	0.096		85,345	8,193	250,511	24,049	18,482	1,774	181,695	17,443	137,737	13,223	150,832	14,480	824,602	79,162
Maize																
Finger millet																
Sorghum																
Pulses	0.029		85,345	2,475	250,511	7,265	18,482	536	181,695	5,269	137,737	3,994	150,832	4,374	824,602	23,913
Beans																
Ficld peas																
Cow peas																
Pigeon peas																
Oilseeds	0.012		85,345	1,024	250,511	3,006	18,482	222	181,695	2,180	137,737	1,653	150,832	1,810	824,602	9,895
Groundnuts																
Simsim																
Soya beans																
Sunflowers																
Vegetables	0.020		85,345	1,707	250,511	5,010	18,482	370	181,695	3,634	137,737	2,755	150,832	3,017	824,602	16,493
Tomatoes																
Onions																
Cabbages																
Greens																
Fruits	0.030		85,345	2,560	250,511	7,515	18,482	554	181,695	5,451	137,737	4,132	150,832	4,525	824,602	24,737
Pincapples																
Passionfruits																
Avocado																
J.fruits/Paw-paw/Mango																
Others(fruits)																

Figure A 2.5.2.1 Marketing Flow
 (1) Coffee



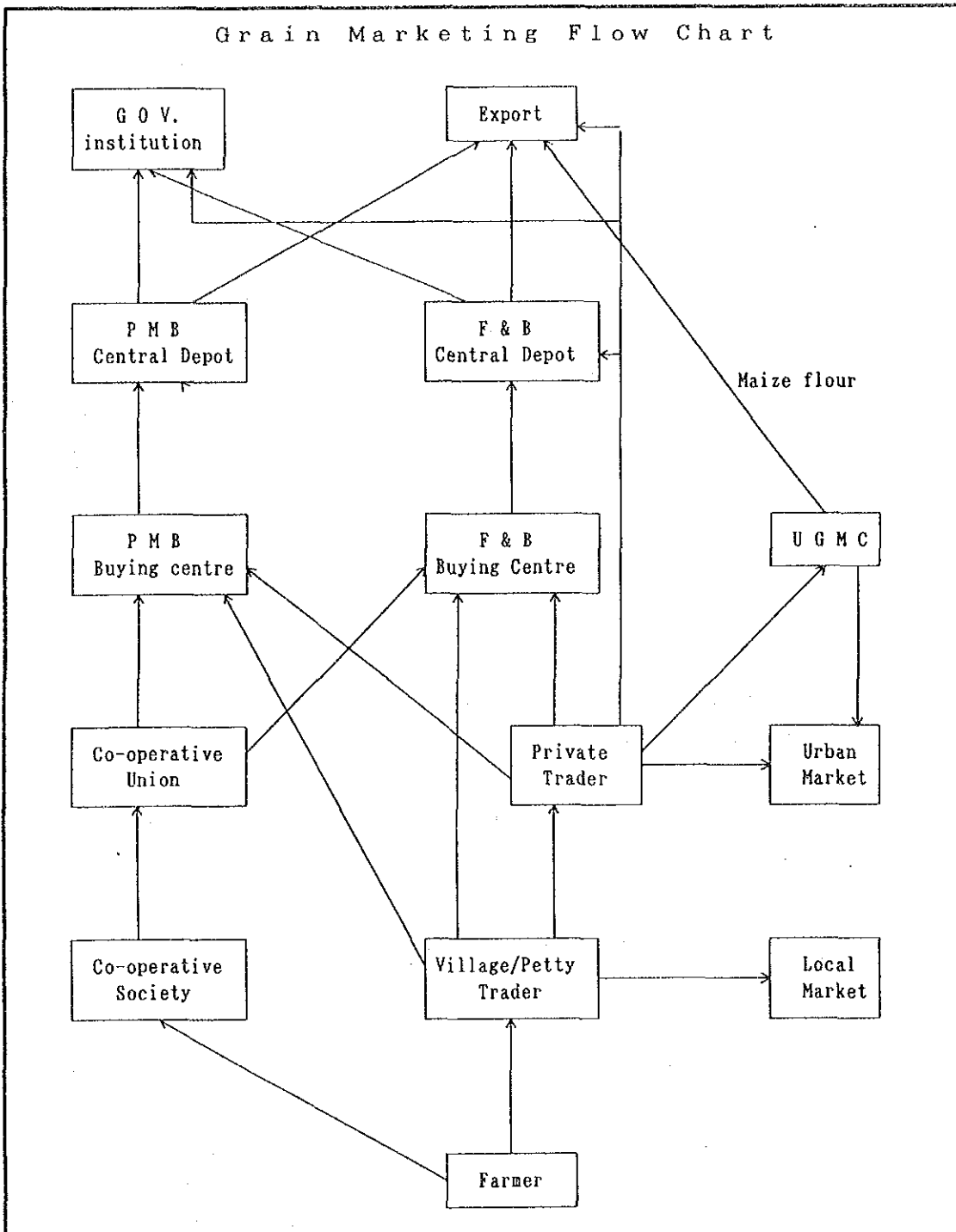
CMB : Coffee Marketing Board
 UNEX : Union Export Services

(2) Lint



LMB : Lint Marketing Board

(3) Grain



PMB : Produce Marketing Board
F&B : Food and Beverage LTD
UGMC : Uganda Grain Millers Company